

Sheetlines

The Journal of
THE CHARLES CLOSE SOCIETY
for the Study of Ordnance Survey Maps

Number 100

August 2014



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Published by
The Charles Close Society for the Study of Ordnance Survey Maps
www.charlesclosesociety.org

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Printed by Winfield Print & Design Ltd

Sheetlines

Number 100

August 2014

Welcome to *Sheetlines* One Hundred. Today's editors salute their predecessors of the last thirty-three years, each of whom contributed to the development of the thriving journal of today. In this issue the first editor, CCS member number 1, Yolande Hodson remembers how it all started.

We also commemorate in this issue the one-hundredth anniversary of the outbreak of The Great War. Gerry Zierler shares some of his grandfather's trench maps, whilst elsewhere we have responses to part one of Ron Blake's history of the depiction on maps of the early airfields, many of which were established as part of the war effort. Part two of Ron's article will appear in December.

Meanwhile, more trench maps may be viewed the National Library of Scotland's new online trench map collection at <http://maps.nls.uk/ww1/trenches/index.html>

Members who visited the Frome printing works will be sorry to learn that Butler Tanner and Dennis went into administration on 23 May. The specialist map printing division, which prints OS maps is understood to be continuing under separate arrangements.

Society visits have been arranged for Wednesday 17 September and Tuesday 7 October, both starting at 13.00. The September visit is to UK Hydrographic Office in Taunton. Numbers are strictly limited, so early booking is recommended. We will see some of their treasures which are destined to be transferred to The National Archives. The October outing will be a return visit to AIDU at RAF Northolt, which has undergone significant reorganisation since our 2009 visit and is now part of JAGO, Joint Aeronautical and Geospatial Organisation. The visit to Land & Property Service in Belfast (successors to Ordnance Survey Northern Ireland) will be in April 2015. Full details will be on the website¹ as soon as confirmed and in December *Sheetlines*. Also keep an eye on the website for announcement of one or two other proposed Autumn 2014 visits. To book a place on the visits, contact Bernard Anderson (details opposite).

Finally a reminder that OS continues to offer CCS members a generous discount at the Ordnance Survey online map shop.² Entering the code CC2PMGAMCM in the discount section within the basket will give you 30% discount on most OS paper maps and OS getamap. This offer isn't being widely used by CCS members – use it or lose it.

¹ <http://www.charlesclosesociety.org/forthcoming>

² <http://www.shop.ordnancesurveyleisure.co.uk>



SHEETLINES

The Newsletter of
THE CHARLES CLOSE SOCIETY

No.1

October 1981

EDITORIAL

The Charles Close Society has been founded at a time when at the international level the growing interest in map collecting in general is reflected in the increasing number of new societies which have sprung up, particularly in the States, to cater for amateur and professional interest alike. In this country, the British-based International Map Collectors' Society was formed last year, providing a focus for collectors of all cartographic persuasions. Our Society, therefore, is only the second map society to be formed in the UK (excluding the more professionally oriented British Cartographic Society and the Society of University Cartographers), and perhaps the first internationally to confine its attention to the products of one Cartographic organisation.

It is the sheer range of these products, spanning nearly two centuries of evolution in design and production at different scales, embracing thematic cartography as well as topographical mapping that provides a sufficiency of subject matter to satisfy a broad spectrum of interests. Our aim, as you will have seen from the Minutes of the inaugural meeting of the Society, is to harness the collector's energy in order to produce the systematic documentation so far lacking of the maps, plans and other publications of the OS. We hope that when you fail to understand, for example, the intricacies of the publication history of the New Series One-Inch map, you will write to the Editor: this will prompt the commission of a willing volunteer to research the problem thoroughly so that it can be written up comprehensively.

Indeed, the production of detailed guides, or 'Collectors' Handbooks' to the various series of the OS is seen as a valuable contribution to the subject which can be made by members of the CCS, whether individually, or in collaboration with others. A great deal of work is already being done on recording the different states of the Quarter-Inch series by Chris Board (see the Working Paper in this issue), on the Half-Inch maps by Peter Clark, and on the Fourth (Popular) Edition One-Inch map by Yolande Hodson. The large-scale plans seem to attract less attention, presumably because of the sheer number of sheets involved - but they are no less important, as Alan Godfrey shows in his short note below on the First Edition of the Six-Inch map of Yorkshire. A most useful project would be the sorting out and listing of the large-scale pre-WW2 plans of London: if any member is interested in researching these or any other series or maps, please contact the Editor; beginners in this field are most welcome, advice and discussion will be made freely available.

It should not be forgotten that maps are not the only publications of the OS: a complete listing of the OS catalogues, together with locations, is not yet available; ephemera such as advertisements and 'Surveyors at Work' posters should be preserved for future study. In this way we hope to create an OS data bank which will be a reliable source of reference on the many aspects of our national survey organisation. Finally, the Editor welcomes all critical comments on this Newsletter.

The early days

Yolande Hodson

As I sit writing this, I have *Sheetlines* number 1 beside me (you can see the front page opposite). Thirty-three years separate it from the 100th issue. I could not have foreseen, as I sat typing the first issue on my state of the art Adler, that technology would so completely transform the production process, resulting in the svelte colour-printed publication that it has become today – such a contrast to the monochrome, homespun, slender little newsletter that began its life on my kitchen table at Cowper Cottage in Tewin in 1981. I am not even sure that I thought ahead to wonder how long the journal would last for. The number 100 certainly never occurred to me. All that I was thinking was that our new Society would not be complete without its own newsletter. In those early days of excitement in getting a new publication (very humble and basic though it was) up and running, the main preoccupation was always with the immediate need to persuade others to write articles, review maps or books and then filling out the content by writing material oneself (other editors will have experienced the same). The thought of doing all of that a hundred times might have dampened one's resolve.

It really is difficult, now, in the digital age of word processing, online editing, Photoshop, etc, to look back and believe that we took all that time to measure spaces on a sheet of A4 paper, type carefully round it, then cut and paste illustrations which were, themselves, photocopies of originals, or other pictures, painstakingly taken to a copy shop where they were reduced or enlarged to the required size, then brought back to the kitchen table and cut and pasted into the waiting space. Text was also equally painstakingly composed in longhand, with many alterations, before being committed to the typewriter. Then the completed typed and pasted-up sheets were once more taken to the copy shop (St Albans, in my case) to be reduced to A5, folded and collated. This was not done while I waited so I would have to go back a couple of days later, bring it all home, address envelopes and put *Sheetlines* into them and then take them to the post. This last part of the exercise still goes on, of course; the big difference between the present and the past is the number of CCS members to whom *Sheetlines* is sent. In my case it was only about 50 to 75. Now, we must all be so proud to be able to say, it is hundreds and I'm very glad not to be filling envelopes anymore – an unsung job the doers of which deserve the lasting thanks of this Society (the Editor, by tradition, gets no thanks – except at the end of this piece).

I am often asked how the name of the journal (for so it now ranks) was selected. The name presented itself in one of those moments, one usually says, 'of inspiration'. But it was not quite like that. I had been working for a few days on the sheet lines of the one-inch map from the Old Series through to the Fifth Edition; and, looking back, I can see that I would have read, some time beforehand, Winterbotham's article on 'Sheet-lines' in the *Geographical Journal* (1932; LXXX, 6:512-518) and so there was probably a subliminal element when,

as my husband, Donald, recalls, I looked up from the typewriter and said ‘I know the perfect name, we’ll call it *Sheetlines*’.

Devising the content was great fun; most of the illustrations came from material in my own collection. Looking back, I think that it is important to remember, surrounded as we are today by an immense amount of information about OS maps from the beginning to the present day, and about the organisation, personnel, and so much more, that the study of OS matters was still in its infancy in 1981. Of, course, Brian Harley had written on the subject and so had I, in a minor way, but he barely skimmed the surface and was, in any case, more interested in the history behind the making of the map than in the detail of the map itself. He, in turn, had been coached by Peter Clark and Ian Mumford in how to look at an OS map. I tagged along on the coat tails of these three and learned an enormous amount in quite a short space of time. Saturdays would be spent in second hand bookshops, scouring boxes for old OS stuff which went for a song in those days and I soon built up a half decent collection.

As I have written elsewhere,¹ it was the realisation that there were other people who were also collecting OS maps that prompted me to suggest to Peter Clark that we should form a society for like-minded OS aficionados. His wholehearted support for the idea was the impetus in persuading the British Library (through the good offices of Dr Helen Wallis, the Map Librarian) to host us in the early years. The value of Peter’s input cannot be overstated and he was a great mentor and support to me and to the creation of *Sheetlines*. But I digress ...

Getting back to the beginning, and the production of *Sheetlines* ... I remember being slightly embarrassed that I was writing much of the content (an admission of failure, on my part, I suppose, to get enough other contributions) so I disguised some of it by inventing ‘Colby’s Column’ – a vehicle for ear to the ground reports of what was going on in OS at the time. It would all be on Twitter or Facebook these days. Although it was all enjoyable it was also very time-consuming and so I would like to thank, from the bottom of my heart, all my successors as editor for all the sacrifice of time and effort they have made over the last thirty-three years which has brought *Sheetlines* to the high standard and reputation which it enjoys today. Above all, congratulations to all of you for making it to your centenary.

Some things never change; the need for contributions from authors is still as pressing as Yo describes. The editors always look forward to hearing from anyone with something to say.

Back issues of Sheetlines (except the three most recent) are available at the archive at www.charlesclosesociety.org/SheetlinesArchive.

¹ Yolande Hodson. *Popular maps : the Ordnance Survey Popular Edition one-inch map of England and Wales 1919-1926*, The Charles Close Society, 1999.

World War One and the Luck family maps

Gerry Zierler

When war broke out, my English grandfather Larman Luck was in his twenties and already a surveyor. I never knew him: he died from the after-effects of another world war, before I was born. My family talked proudly of him of course, but never of his wartime exploits so long ago, in common with many who suffered the ravages of WW1.

I'd always enjoyed maps, even as a kid, drawing them for fun, of places real and imaginary. Interests like buses and trains and cadet force ops and flying meant I collected Ordnance Survey (of course!) and London Transport maps of wherever I went, from an early age. Much later on, I found myself publishing maps as promotional aids to my businesses. My son, too, exhibited impressive amounts of spatial awareness in maps that he had doodled from the age of about six. I often wondered why this passion was hereditary.

They cracked the human genome about the same time as I discovered what Grandpa Larman had been doing: I wrote a tongue-in-cheek piece about there being a map gene in our family. This began to be a serious theory, and I have wanted ever since to do some serious research into it. Perhaps now I'm about to retire I shall at last give it time!

Larman had a brother, Bernard, late father of cousin Roger Luck. Knowing my interest in family history as well as maps, Roger kindly passed to me my great uncle's maps, which included those used in earnest during WW1. I took some of these out to the Western Front with tv journalist friend Rob Kirk, who had done a lot of research on our use of tanks with Philippe Gorczynski, a battlefield historian from Cambrai. Imagine the adrenalin when Philippe confirmed that one of Uncle Bernard's maps had been annotated on the first day, 20 November 1917, of the massed tank advance towards the Hindenburg Line near Cambrai (*fig 1*).

The other pencilled notations on this map were also explained: 'R W K' were Royal West Kents, 'DCoyB' was 'The Buffs' D Company, and numerous little circles were German gun emplacements (remains are still there), and the two heavy blue lines were the route taken by the tanks.

The initials in the maps' inscription 'B U Luck, M G C' gave the lie. 'Tank' was of course just a subterfuge, when they were first shipped to France. It was the Machine Gun Corps (Heavy Brigade) who drove them and fought in them. Could Uncle Bernard have been a tank man?

But what else had he done? Another 1:10,000 map in the collection is that of *Gueudecourt 57C S.W. 1., Edition 3 A*¹ which has trenches corrected to dates in January that year (see figure 2). On this map, 4 miles to the west of the 'tank' map, a pencilled arc of gun ranging lines have been drawn northwards over that village towards the German trenches. Where dividers had pierced the map, I stood in the same spot and gazed down over the peaceful countryside, full of wonder.

¹ Italicised sheet names and punctuation are shown exactly as printed on the maps themselves.

Figure 1: Extract from Bernard Luck's composite sheet of GSGS3062 maps: Trench Map Bantouzelle. 57B S.W.1. Edition 2A Scale 1:10,000 (but mostly: Gonnelieu 57C S.E.2 Edition 3A Trenches Corrected to 30-9-17.). Annotated for tank battle preparations, 20 November 1917.

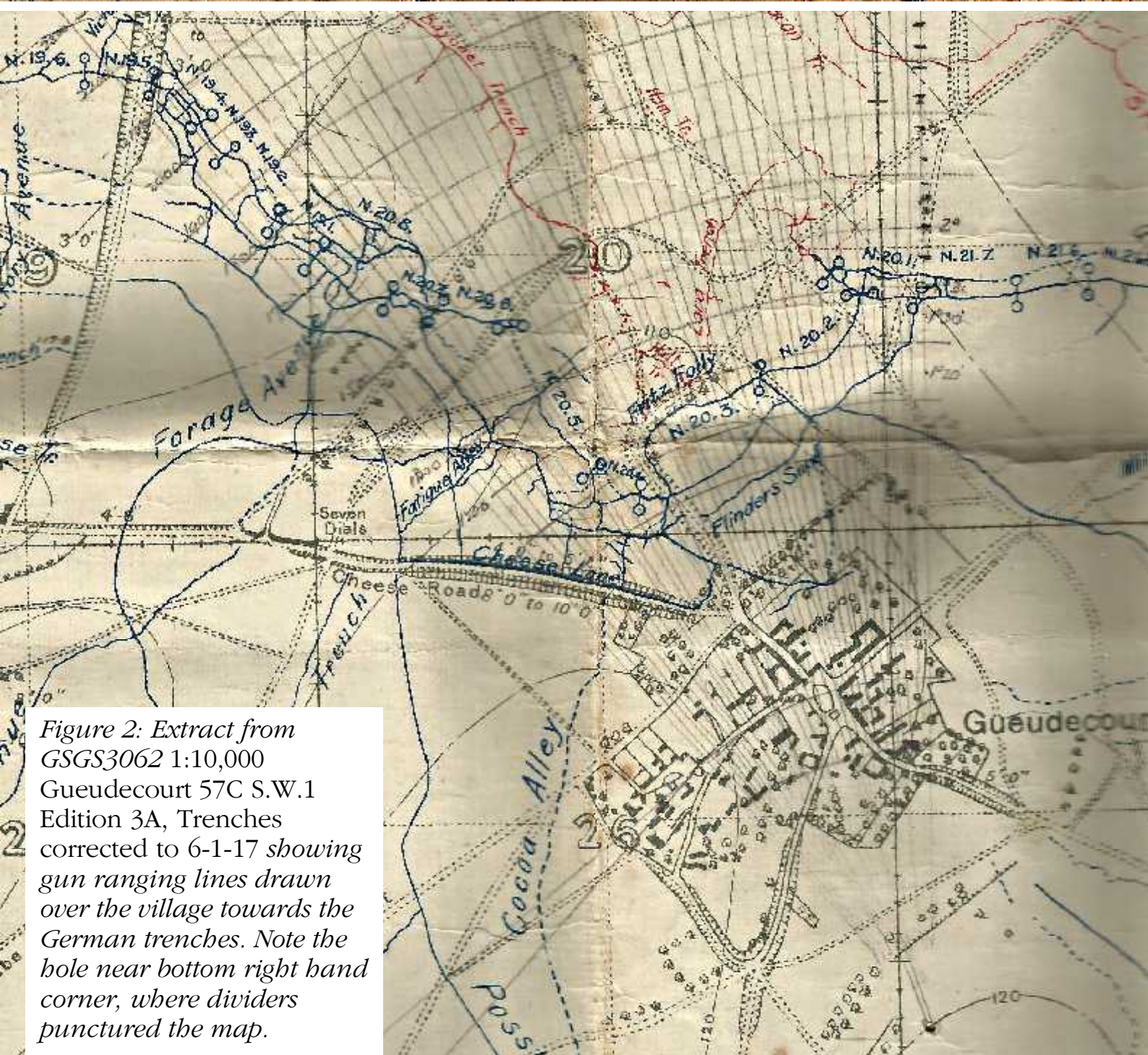


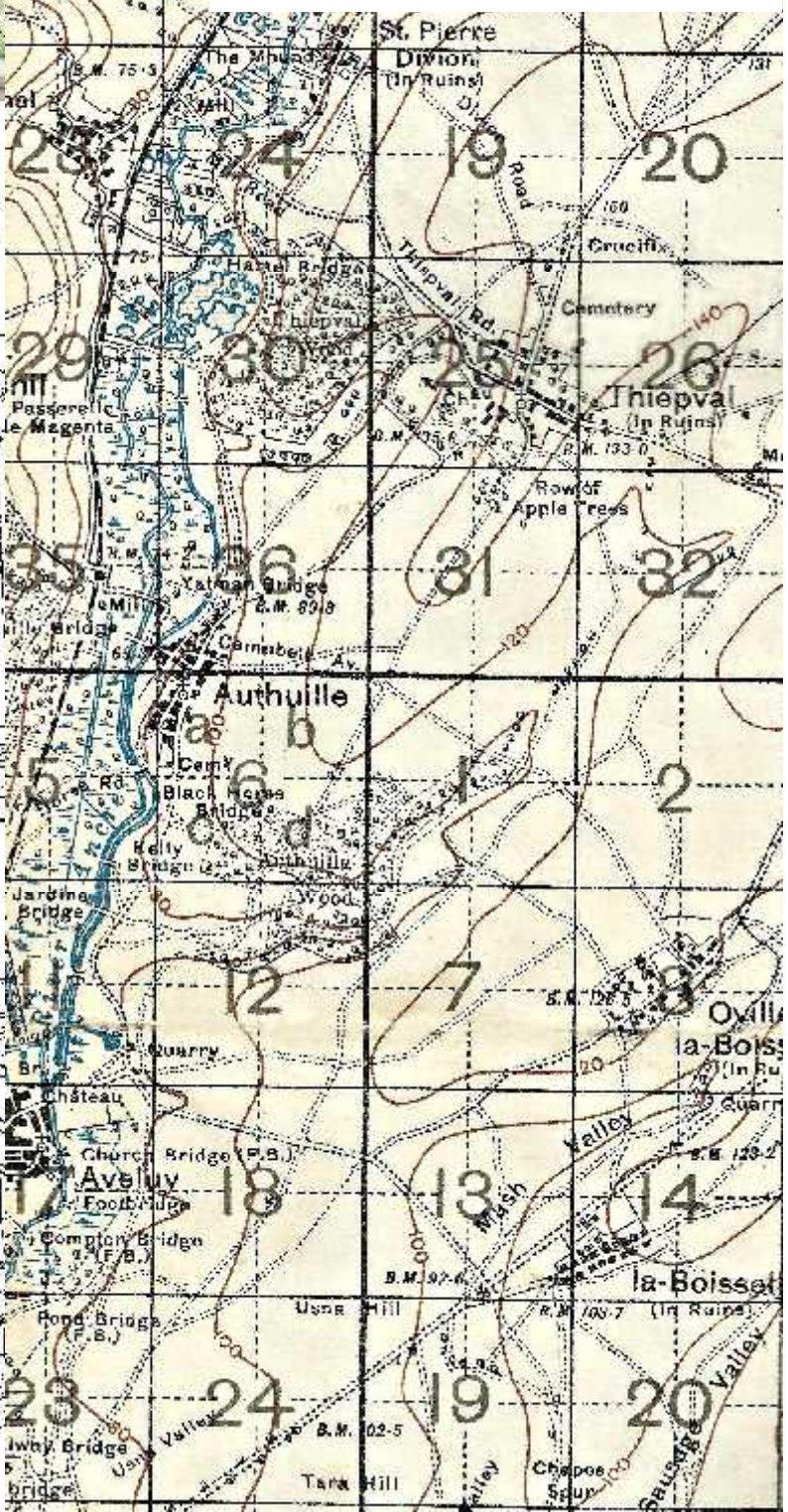
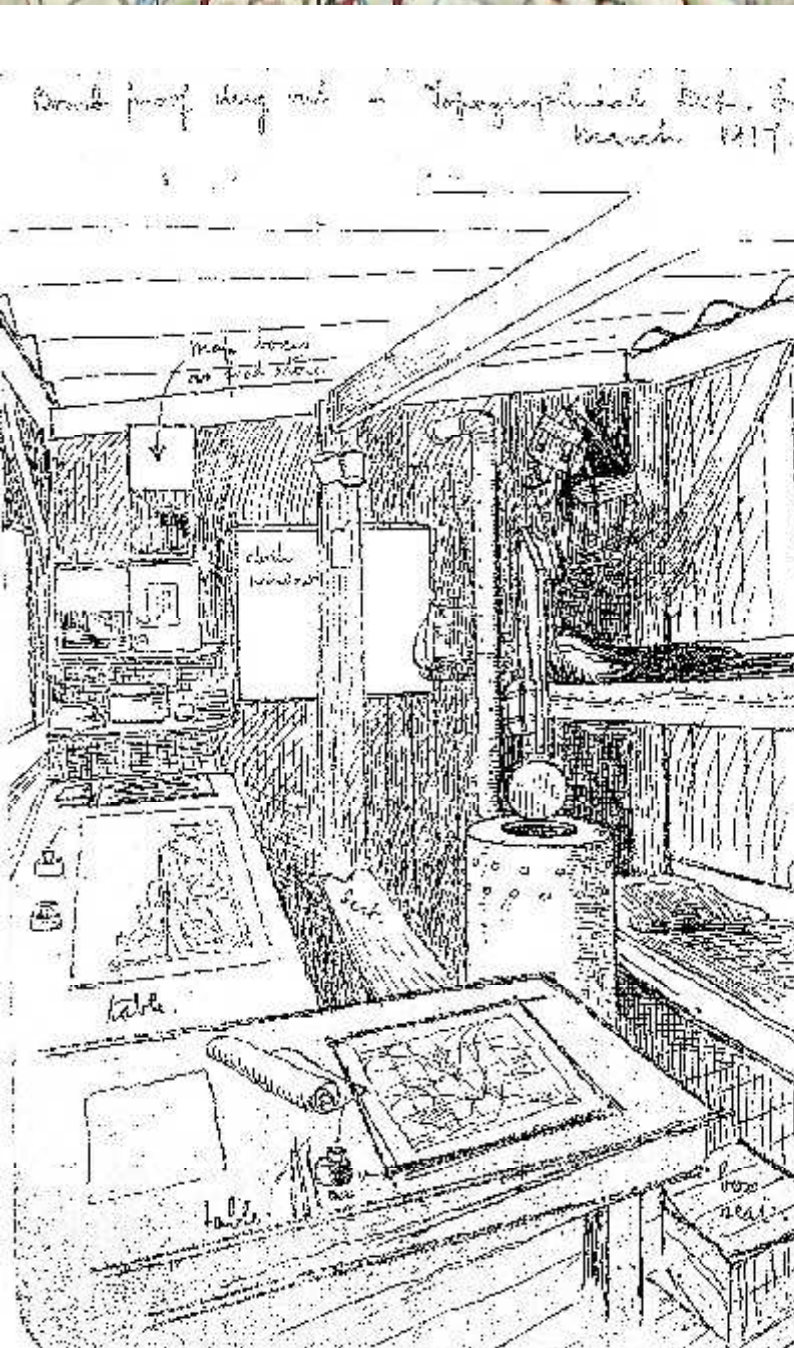
Figure 2: Extract from GSGS3062 1:10,000 Gueudecourt 57C S.W.1 Edition 3A, Trenches corrected to 6-1-17 showing gun ranging lines drawn over the village towards the German trenches. Note the hole near bottom right hand corner, where dividers punctured the map.



Figure 3 (left): Extract from GSGS2364 Belgium 1:100,000 sheet Hazebrouck Edition 2. 5A of 1916.

Figure 4 (below): Extract from GSGS2743 France 1:40,000 Edition 2. Sheet 57D 1917. Showing the front line near Thiepval in the Ancre valley north of Albert.

Figure 5: Larman Luck's pen-and-ink sketch of his map-making bunker at Foucaucourt, between Amiens and St Quentin.



Having Rob point his tv camera at me while gazing at the map and this once-deadly view, and expecting me to speak, was quite an emotional experience.

Other maps in this small but priceless collection include a GSGS2742 sheet entitled: *1/20,000 Trenches...to 25-5-18. France Edition 8b (Local) Sheet 57C N W* (around Bapaume). A most attractive map is the not uncommon GSGS2364 *Belgium 1:100,000 Hazebrouck Edition 2. 5A*, on cloth as with all the others, from 1916 (see figure 3 for an extract of Ypres).

An example of a GSGS2745 1:40,000 map in the group is *France Sheet 57D Edition 2*. Figure 4 shows an extract of this map covering the beautiful Ancre valley below Thiepval, site now of the massive Lutyens' memorial to those lost without trace there in WW1. I know that Bernard's brother Larman – my grandfather – had fought there, and my cousin knows that they contrived to meet

more than once. I wonder if one brother was using the maps to which the other had contributed in the making?

Larman Luck's field notebook, a precious survivor from WW1, is full of exquisite drawings and paintings, which I had borrowed from my mother but not studied in detail. Waiting to be discovered on page 77 in this was a pen-and-ink sketch headed 'Bomb proof dug out - Topographical Dept. Foucaucourt, March 1917' (see figure 5). This dugout was his mapmaking bunker on the Somme near Amiens: the peacetime surveyor had become a soldier cartographer. So perhaps there is a map gene after all!

In the same notebook is a beautifully detailed manuscript map of a British raid over German trenches a few miles east of Foucaucourt, obviously drawn by him (figure 6). This tallies exactly with German records of their trenches at Hargicourt, near St Quentin.

Given the relevance of the commemoration in 2014 of the start of World War 1, I hope this short report of my English forebears' mapping history is of interest, and I hope you will forgive any shortcomings. Much more research is clearly called for, and I look forward to my imminent retirement releasing enough time to study these maps and their locations rather more.

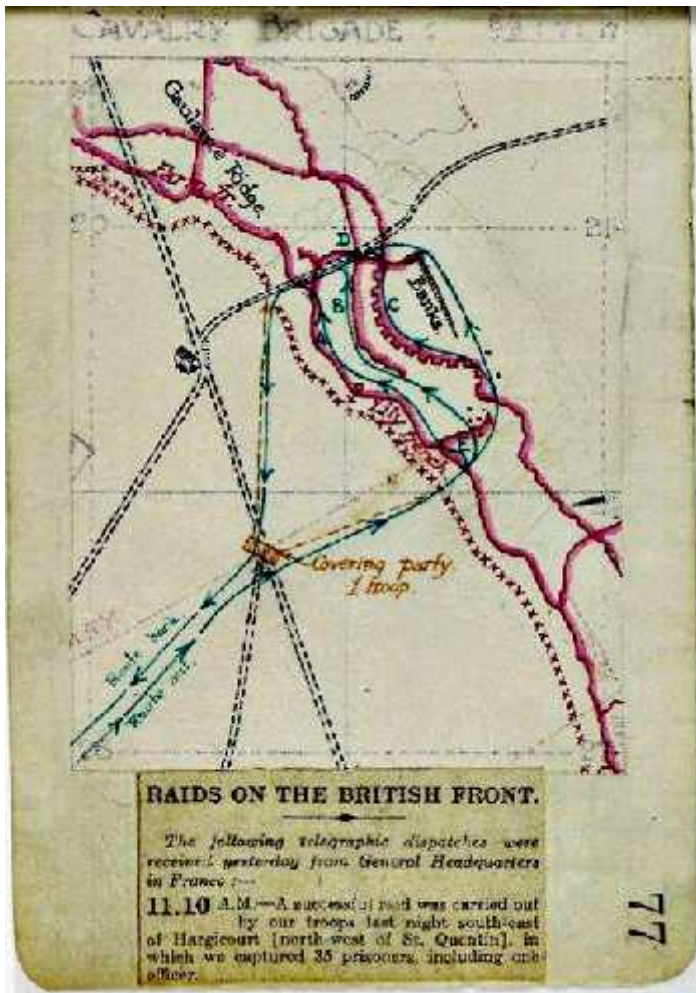


Figure 6: Manuscript map by Larman Luck of a trench raid at Hargicourt near St Quentin, headed Cavalry Brigade: 8/9:7:17, with British news cutting announcing the success of the raid.



2014 AGM

The 2014 AGM was held at Ordnance Survey headquarters, Explorer House, Southampton on 17 May. A record audience of nearly 120 members heard talks from former OS Director General Vanessa Lawrence and acclaimed author (and CCS member) Mike Parker.

top: Chairman Gerry Zierler about to start the meeting.

middle row: Previous chairman Chris Board, who was awarded honorary membership, together with Vanessa Lawrence displaying her 'OS MasterMap – the wearable edition'.

Richard Oliver presenting Vanessa Lawrence with a copy of his newly-published latest book The Ordnance Survey in the Nineteenth Century.

left: Morning coffee and lunch were served on the balcony overlooking the open-plan atrium.

[photos: John Davies]



The light in the middle of the tunnel: How a misunderstanding of what's shown on OS maps nearly caused a rail disaster

On 8 March 2013, a train driver on the First Capital Connect line into Moorgate, London, reported that flood water was flowing from the roof of a railway tunnel north of Old Street station. The driver of an out-of-service passenger train was asked to examine the tunnel at low speed and check for damage. He discovered that two large drills had penetrated the tunnel roof and were fouling the line ahead of his train. The drills were being used for boring piles from a construction site above the tunnel. The operators of the piling rig were unaware that they were working above an operational railway tunnel, whose position was not shown on the site plan, nor on any map available to either the developer or the local planning authority.

The Rail Accident Investigation Board (RAIB) report on the incident¹ determined that approximately half of the piles required for the new development would have intersected with the tunnel had they had been constructed.

One of the main 'learning points' identified by the report was that those carrying out investigations for proposed developments should be aware that not all railway tunnels are shown on Ordnance Survey mapping.

RAIB examined current and historic Ordnance Survey mapping for the area, (including 1:10,000 scale and OS MasterMap) and found that the route of the Moorgate tunnels is not shown on any Ordnance Survey mapping despite other Network Rail tunnels being shown.

This omission may reflect the line's history as a former part of the London Underground network (the city branch of the Northern line, prior to the Moorgate tragedy of 1975).² Ordnance Survey distinguishes railway lines into two categories for the purposes of its mapping:

- a. Lines generally recognised as 'overground': ie ground surface level routes, typically infrastructure owned by Network Rail but includes lines that are part of an 'underground' network but operate at surface level.
- b. Lines generally recognised as 'underground' networks focused on a particular urban area or conurbation.

In the case of tunnels on lines in category b, Ordnance Survey has stated that its policy is to show the approximate alignment of tunnel walls for the sub-surface Metropolitan and District Lines in London, as these routes are open to the ground surface in a number of places. Its mapping also shows some 'underground' tunnel entrances and interactions with overground lines, but excludes the route of most tunnels used by underground railway systems. Although there is no indication on Ordnance Survey maps that some underground railway system tunnels are omitted, information relating to the mapping specifications is provided within the User Guide Documentation available to users of digital information.

Ordnance Survey has stated that it has no record of being notified of the transfer in ownership of the Moorgate tunnels (in 1975), and therefore did not consider whether these tunnels should be shown on its mapping as part of the 'overground' railway network.

John Davies

¹ Published February 2014 and available for download at:

http://www.raib.gov.uk/publications/investigation_reports/reports_2014/report032014.cfm

² http://news.bbc.co.uk/ontbisday/bi/dates/stories/february/28/newsid_2515000/2515033.stm

The Baker Committee of 1892 and a reinterpretation of some Ordnance Survey history

Richard Oliver

Recently, Peter Collier has published two articles, in the *Cartographic Journal* and in *Sheetlines*, on the Committee on a Military Map of the United Kingdom – the Baker Committee – of 1892.¹ The articles take as their starting-point the half-sentence mention of the Committee in the ‘Seymour’ history of the Ordnance Survey, published shortly after the founding of the Charles Close Society in 1980.² For articles that were published in 2013 and 2014 it is curious that the only secondary literature referred to – and then only in the *Cartographic Journal* article – is the Owen and Pilbeam ‘popular history’ of the Ordnance Survey, published in 1992 and relying very largely on the Seymour account.³ Although it is certainly the case that the Baker Committee had not hitherto been the subject of a separate study in its own right, it has hardly gone unnoticed, with references both in an important ground-breaking article on military mapping by the late Tim Nicholson, published in the *Cartographic Journal* in 1988, and in several Charles Close Society publications.⁴ Whilst it would be over-reacting to cry ‘No story!’, nonetheless both the Collier articles are inadequate to the occasion in the light of

¹ Peter Collier, ‘The Military Map of the United Kingdom and its impact on mapping in the twentieth century’, *Cartographic Journal* 50 (2013), 324-31; Peter Collier, ‘The Military Map of the United Kingdom and its impact on Ordnance Survey mapping’, *Sheetlines* 99 (2014), 44-53. The report is *Report of Committee on a military map of the United Kingdom*, unpublished, printed at the War Office, 1892 [A.237], hereafter *Baker Committee*. The only publicly accessible copy that I know of is in The National Archives, WO 33/52, pp 639 ff; there is another in the Royal Geographical Society collection at Z.72/4. (The writer is indebted to Peter Clark for access to a photocopy from an unidentified original.)

² WA Seymour (ed), *A history of the Ordnance Survey*, Folkestone: Dawson, 1980: despite the date, the book only seems to have been issued in the spring of 1981. The Baker Committee’s half-sentence is on p.188.

³ Tim Owen and Elaine Pilbeam, *Ordnance Survey: map makers to Britain since 1791*, Southampton and London: Ordnance Survey and HMSO, 1992; the softback edition, dated 1992, but actually issued in 1993, has some small revisions to the text.

⁴ Tim Nicholson, ‘The Ordnance Survey and smaller scale military maps of Britain 1854-1914’, *Cartographic Journal* 25 (1988), 109-27, esp. pp 116-7; Richard Oliver, ‘New light on the New Series’, *Sheetlines* 12 (1985), 7-11, esp. p.8; [extracts from Baker Committee report], *Sheetlines* 16 (1986), 16-20; Yolande Hodson, *Popular maps: the Ordnance Survey Popular Edition one-inch map of England and Wales 1919-1926*, London: Charles Close Society, 1999, 3, 10, 41, 87, 113, 114, 128, 131, 154, 185, 211; Tim Nicholson, *The birth of the modern Ordnance Survey small-scale map*, London: Charles Close Society, 2002, 10-12; Roger Hellyer and Richard Oliver, *A guide to the Ordnance Survey one-inch Third Edition maps, in colour*, London: Charles Close Society, 2003, 3; Roger Hellyer and Richard Oliver, *Military maps: the one-inch series of Great Britain and Ireland*, London: Charles Close Society, 2004, 4-5; Roger Hellyer and Richard Oliver, *One-inch engraved maps of the Ordnance Survey from 1847*, London: Charles Close Society, 2009, 55; Bill Bignell, *Mapping the windmill: the Ordnance Survey in England*, London: Charles Close Society, 2013, 124 ff. The Baker Committee is also discussed in Richard Oliver, *The Ordnance Survey in the nineteenth century: maps, money and the growth of government*, London: Charles Close Society, 2014, 370-2.

the secondary literature that has appeared since 1981, and also of the information to be quarried quite easily from internet searching.

The terminology for the Ordnance Survey one-inch (1:63,360) map used in the article is symptomatic of the apparent lack of awareness of developments. Although for much of the twentieth century this terminology was the source of confusion, in the early 1990s – following much discussion and correspondence – a system was devised that respected both the taxonomic and bibliographic aspects.⁵ For England and Wales the earlier generations are:

- The Old Series: published 1805-74
- The New Series: published 1874-96 [but incorporating earlier mapping published 1847-74]
- The revised New Series: published 1895-9
- The Third Edition: published 1903-13
- The Fourth Edition: seven sheets only, published 1911-12
- The Popular Edition: published 1918-26
- The Fifth Edition: published 1931-9, but abandoned incomplete.

As I have explained elsewhere, the terms ‘Old Series’ and ‘New Series’ originally referred to number series rather than to generations of maps, and it was only with the development of systematic revision in the 1890s that the term ‘edition’ for a generation came into use.⁶ The term ‘series’ only came into use in 1951-2 as a result of NATO standardisation agreements, which introduced a hierarchy of series-sheet-edition: what is familiar as the Seventh *Series* was still the Seventh *Edition* on proof printings in the autumn of 1951. Use of ‘series’ to designate what in the agreed system and on the face of the maps is the Third Edition is therefore both anachronistic and bibliographically wrong. The reference to a ‘Third Series’ authorised in 1897 actually refers to the fixing of a sales price for the coloured version of the revised New Series.⁷ The only ‘Third Series’ that has been produced in these islands is the final generation of the one-inch of Northern Ireland, first published in 1960-4. The only ‘First Series’ and ‘Second Series’ published by the Ordnance Survey in Great Britain were of the 1:25,000 and 1:50,000 series.⁸ Confusion is made worse by ‘Figure 1’ in the Collier *Sheetlines* article, which is described as ‘First Series’ and appears to be intended to represent the Old Series, but is actually an extract from New Series sheet 285 – in contoured outline, whereas the Old Series was hachured but uncontroled (*figure 1*). This was the first New Series sheet of southern Britain to be published, in 1874; the extract is from a state of the outline form, printed between about 1886 and 1892.⁹

⁵ This system is to be found in Owen & Pilbeam, *Ordnance Survey...*, [1993 edition], 180, Roger Hellyer, *Ordnance Survey small scale maps indexes: 1801-1998*, Kerry: David Archer, 1999, 3-41 *passim*, and in Hodson, *Popular maps*, 15.

⁶ Hellyer & Oliver, *One-inch engraved maps*, 44.

⁷ Collier, ‘The military map of the United Kingdom...’, 44, 45.

⁸ The designation ‘Second Series’ had been removed from the 1:50,000 *Landranger* series [note the lower-case] by 2008, and the 1:25,000 *Explorer* never has been a ‘numbered series’.

⁹ Hellyer & Oliver, *One-inch engraved maps*, 366-7.

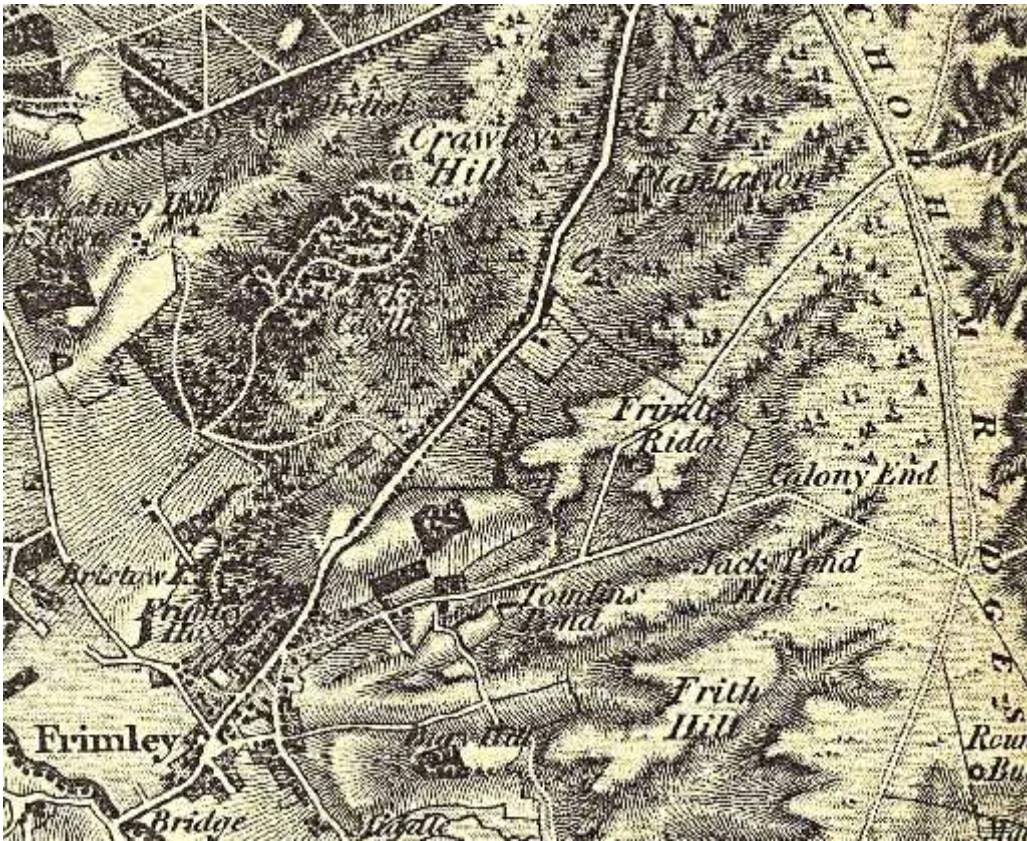


Figure 1.
One-inch Old
Series: hachured.
An extract from
sheet 8 (1816)

The context of the Baker Committee

Peter Collier suggests that military concerns about the one-inch map arose in the early 1870s, leading to the authorisation of the New Series, and that, though sheets of the mapping were sent periodically to the War Office, they were found unsatisfactory, leading eventually to the setting-up of a committee – the Baker Committee – to consider the problem. Unfortunately, this is at best a misreading of events.

The authorisation of the New Series was more complicated than simply being the fulfilment of a request from the military. A long-overlooked sentence in the relevant published OS annual report indicates that work on the new map was already under way in 1869, and indeed the production of revised one-inch mapping had been implicit in the authorisation of the 1:2500 resurvey of southern Britain in 1863.¹⁰ The War Office's request of 1871 seems to have been mainly effective in enabling what had begun as a discreet civil initiative to come into the open.¹¹

There is no known evidence to dispute the Baker Committee's statement that 'though sheets have from time to time been submitted to the War Department prior to publication, it has been found that the military character of the map has suffered by the too great predominance given to detail of no military importance'. Nonetheless I suggest that it may be reading too much into these words to suggest that there was growing military discontent.¹² In 1897 General Redvers

¹⁰ Hellyer & Oliver, *One-inch engraved maps*, 38.

¹¹ Hellyer & Oliver, *One-inch engraved maps*, 42-3.

¹² *Baker Committee*, 5.

Buller wrote that he had been trying for ‘sixteen years’ (*i.e.* since 1881) ‘to get a decent ordnance military map made of England’ (*sic*), but his tone suggests that his was a minority voice, and he is not recorded as contributing to the Baker Committee’s proceedings.¹³ If there was significant military dissatisfaction with the one-inch between 1872 and 1892, why did the War Office not say so sooner? It might be because the recipients of the proof-copies at the War Office were not very map-minded and simply had no comment; it might also be that the geography of military postings might mean that their experience lay outside the areas for which the new mapping was being prepared. It is natural for a committee seeking change not to understate the unsatisfactory nature of the present state of things: the facts need to lend themselves to a good story.

Whilst it is certainly true that there are no known surviving papers bearing on the appointment of the Committee, it has been noted both by the late Tim Nicholson and by myself that it was appointed several weeks after a successful motion by Henry Roby in the House of Commons for a select committee on the Ordnance Survey, passed on 11 February 1892.¹⁴ The motion was the outcome of a campaign by Henry Crook, a Manchester civil engineer, spare-time soldier and constituent of Roby’s, for improvements to Ordnance Survey mapping, particularly the one-inch. Following negotiations with Roby, the select committee, which would have been composed exclusively of MPs, was replaced by a departmental committee appointed by the Board of Agriculture (the Survey’s ‘sponsoring ministry’ in later parlance), which included both MPs and outside specialists, including General Anthony Cooke, who had directed the Survey between 1878 and 1883, and would not be hampered by any Parliamentary timetable. The committee was appointed on 26 April, and the chairman was Sir John Dorington, Conservative MP for Gloucestershire. It finally reported on 31 December 1892; in July 1892 Lord Salisbury’s Conservative ministry was replaced by a Liberal one under Gladstone.

The timing of the Baker Committee

So far, then, from the Baker Committee being the culmination of military frustration, the timing instead suggests that Colonel Sir Charles William Wilson, the Director-General of the Ordnance Survey from November 1886 to March 1894, took the opportunity to suggest to the War Office that it hold its own enquiry, in order to ensure that any military desires were taken account of in the departmental committee’s proceedings.

Four points need to be noted here. The first is a broad political one: the Ordnance Survey, like all other government departments, was subject to Treasury control, and the Treasury tended to be very sceptical about spending on the Survey. Parliament and public opinion might insist on the principle, but the

¹³ Baker to Hicks Beach, 17 September 1897, quoted in Oliver, *The Ordnance Survey in the nineteenth century*, 438.

¹⁴ Nicholson, *The birth of the modern Ordnance Survey small-scale map*, 10-12; Hellyer & Oliver, *One-inch engraved maps...*, 54-5. See also Oliver, *The Ordnance Survey in the nineteenth century*, 369 ff.

Treasury determined the spending practice. In 1868 and 1880 the Treasury had been forced by outside pressure to agree increases, but by 1886 it was looking to rein in the Survey.¹⁵

The second concerns the one-inch New Series under Wilson's directorship. As has been explained elsewhere, the design of the New Series was anything but static after 1872 – and particularly after Wilson took charge. He had had considerable experience both of the Survey and of soldiering, notably in the Sudan in 1884-5, where the death of his two superiors led to his assuming command of the unsuccessful expedition to rescue General Gordon. Between 1874 and 1885 output of the New Series was slow – a total of 42 sheets, all of south-east England, and an average of about four a year – because of the pressure for the one-inch of Scotland, which was completed in 1887. That year must have seemed an *annus mirabilis* for the New Series, as 27 sheets were published; yet in 1888 only nine appeared. Then there were 23 in 1889, 31 in 1890 and 27 in 1891. The explanation for the fall-off in 1888 seems to lie in a change of procedure ordered by Wilson. Hitherto the one-inch had been prepared, by reduction from the six-inch and larger scales, wholly in the office: Wilson introduced the practice of examining sheets in the field before publication in order to check that nothing of importance had been omitted or distorted in the reduction. This was probably only decided on some time after his appointment, and thus took effect only after the sheets published in 1887 were at too advanced a stage to be field-checked, but a delay for such a check would account for the temporary fall-off in output in 1888.¹⁶ A possible stimulus to the new policy might have been the very dense supply of names on the Cheshire sheets issued in 1887; those along the border with Lancashire were issued with the latter county's area blank, pending resurvey, and were only issued complete in 1896, and there is a striking contrast in the density of minor names between the two counties on the completed mapping. Wilson may indeed have been dissatisfied with the New Series as a military map when he assumed the Directorship, but he was doing something about it well before 1892.

A third point is that coloured one-inch mapping was not something completely unknown to the Ordnance Survey in the spring of 1892 when the Baker Committee was sitting. A zincographically-printed map of the Aldershot district had been produced in 1874, and was frequently reissued over the next twenty years, with the hills shown by horizontal form-lines printed in various shades of grey or brown, and by 1892 several other such maps had been produced for military purposes. Though Wilson seems to have been personally unenthusiastic about the sort of extensively coloured map that the committee would recommend, he was certainly averse neither to the principle of colour nor to experiments. In 1887 the Survey had published two New Series sheets, 255 and

¹⁵ Oliver, *The Ordnance Survey in the nineteenth century*, 331-2, 342.

¹⁶ Hellyer & Oliver, *One-inch engraved maps...*, 49-50.

274, in a three-colour style: outline in black, water in blue and contours in red.¹⁷ They seem to have been published shortly after Wilson's appointment, and were presumably initiated under his predecessor, Stotherd. They were available for sale, but at 1s.6d as compared with 1s.0d for the standard engraved style they found few purchasers. Did Wilson not like them? Or were they not worth the extra price? The next colour development was double-printing from copper: this enabled the one-inch hill-map to be issued with outline in black and hills in another colour – in practice brown. The early history of this is obscure, but by 1890 a separate hill-plate had been prepared for sheet 345, covering the south-east of the Isle of Wight. In August 1891 preparation began of an interim form of New Series hill-map, printed zincographically, with outline in black transferred from copper and hills in brown produced from drawing. More ambitious was a five-colour photozincographed map of the 'Isle of Wight' – possibly a version of New Series sheet 331, since it included Portsmouth – that was exhibited to Dorington Committee witnesses: no copy is known, but it can be inferred that it had outline and hills in black), water blue, buildings red, woods green and roads brown. The reversion to hills in black may seem odd in view of the hills-brown convention, but can be explained by imitation of the French 1:100,000 *Carte Vicinale*.¹⁸ No maps were exhibited to Baker Committee witnesses.

The fourth point is that revision of the large scales was already in hand, and there were sound precedents for such revision finding its way to the one-inch in due course. There was no need for any official investigation to get the principle of revision; thus the Dorington Committee was a tactic, not a necessary preliminary to a strategy.¹⁹

Thus the timing of the Baker Committee seems to have been determined by wider civil developments: an agitation for improved mapping leading to a civil enquiry – which the soldiers exploited for military ends.

¹⁷ Sheet 274 was subsequently printed in a two-colour form, with both water and contours in blue.

¹⁸ *Report of the Departmental Committee appointed by the Board of Agriculture to inquire into the present condition of the Ordnance Survey...*, British Parliamentary Papers (House of Commons series) 1893-94 [C.6895], LXXII, 305, evidence, qq 1722 ff, 2835, 3203 ff, 3473 ff, 4033, 4619, 4626, 4783. The *Carte Vicinale* had outline in black, hills in sepia, water in blue, woods in green and road outlines in red. It is unclear from the Dorington evidence whether on the Isle of Wight map roads were brown casings, as on the *Carte Vicinale*, or infilled brown, as would be standard later OS practice. The photozincographic method of colour-separation entailed photographing the original map as many times as there were colours, and then deleting from each negative everything not wanted for that particular colour. The method was certainly rigorous, in that the relative dimensional stability of the glass negatives would minimise problems inherent in paper distortion, but it was evidently more labour-intensive than the method standardised by the OS after 1895, of taking a transfer in lithographic ink from the parent copper plate and then scraping off anything not wanted before retransferring the image to a plate or stone.

¹⁹ Oliver, *The Ordnance Survey in the nineteenth century*, 356 ff.

The appointment of the Baker committee and its witnesses

Wilson would have been an obvious choice as a member, being both a soldier and head of the civil-controlled national survey; as Peter Collier notes, Sir Thomas Baker was no doubt appointed because of his seniority. Major-General Edward Chapman was Director of Military Intelligence, and his appointment was as logical as Wilson's, as the separate military organisation concerned with mapping was the Intelligence Division of the War Office – IDWO. The appointment of Colonel James Dalton, of the Adjutant's General office, can be explained by that department's responsibility for military training.²⁰



Figure 2.
Colonel William Willoughby Cole Verner in Gibraltar in 1903, photographed by Sarah Acland in natural colour using the Sanger-Shepherd process. (Source: Wikipedia Commons)

Peter Collier performs a valuable service in identifying some of the Committee's witnesses, but he says of Major William Willoughby Cole Verner, Deputy Assistant Adjutant-General for Instruction, South-East District, that 'little is known'.²¹ In fact, an internet search quickly yields not only biographical notes but even an early natural-colour photograph, taken in 1903 (figure 2).²² He was 'quite someone', for he was briefly professor of topology at Sandhurst, patented a cavalry sketching-board, and in 1895 devised a new form of prismatic compass that was still being produced in the 1940s; other interests included ornithology and fossil bones. His writings include *An historical account of the Rifle Brigade and of the King's Royal Rifle Corps* (1890), *Some Notes on Military Topography* (1891) and *Map Reading and the Elements of Field Sketching* (1893). As if these were not qualifications enough, he had served in the Sudan in 1884-5 – he published *Sketches in the Soudan* in 1885 – and therefore must have come into contact with Wilson, who might perhaps have recommended Verner as a Baker witness.²³ The 'church with tower' symbol

recommended by the Baker Committee appears in essence on a specimen military sketch signed by Verner in 1891, and his apparent association with this now

²⁰ General Sir Thomas Durand Baker (1837-93) - Quarter-Master General from October 1890; General Sir Edward Francis Chapman (1840-1926) - Director of Military Intelligence, 1891-6, KCB 1905; General James Cecil Dalton (1848-1931).

²¹ Collier, 'The military map of the United Kingdom...', 49. Major Verner's post demonstrates why the military like their abbreviations.

²² en.wikipedia.org/wiki/William_Willoughby_Cole_Verner: accessed 14 June 2014.

²³ I owe the likely connection with Wilson to Bill Bignell. 'It's not *what* you know...'

familiar symbol merits further investigation (*figure 3*).²⁴ It is of interest that the one non-commissioned officer to give evidence, Sergeant Short, was an assistant to Verner. It is also of interest that another witness had served in Sudan in 1884-5: Colonel Elliott Wood.

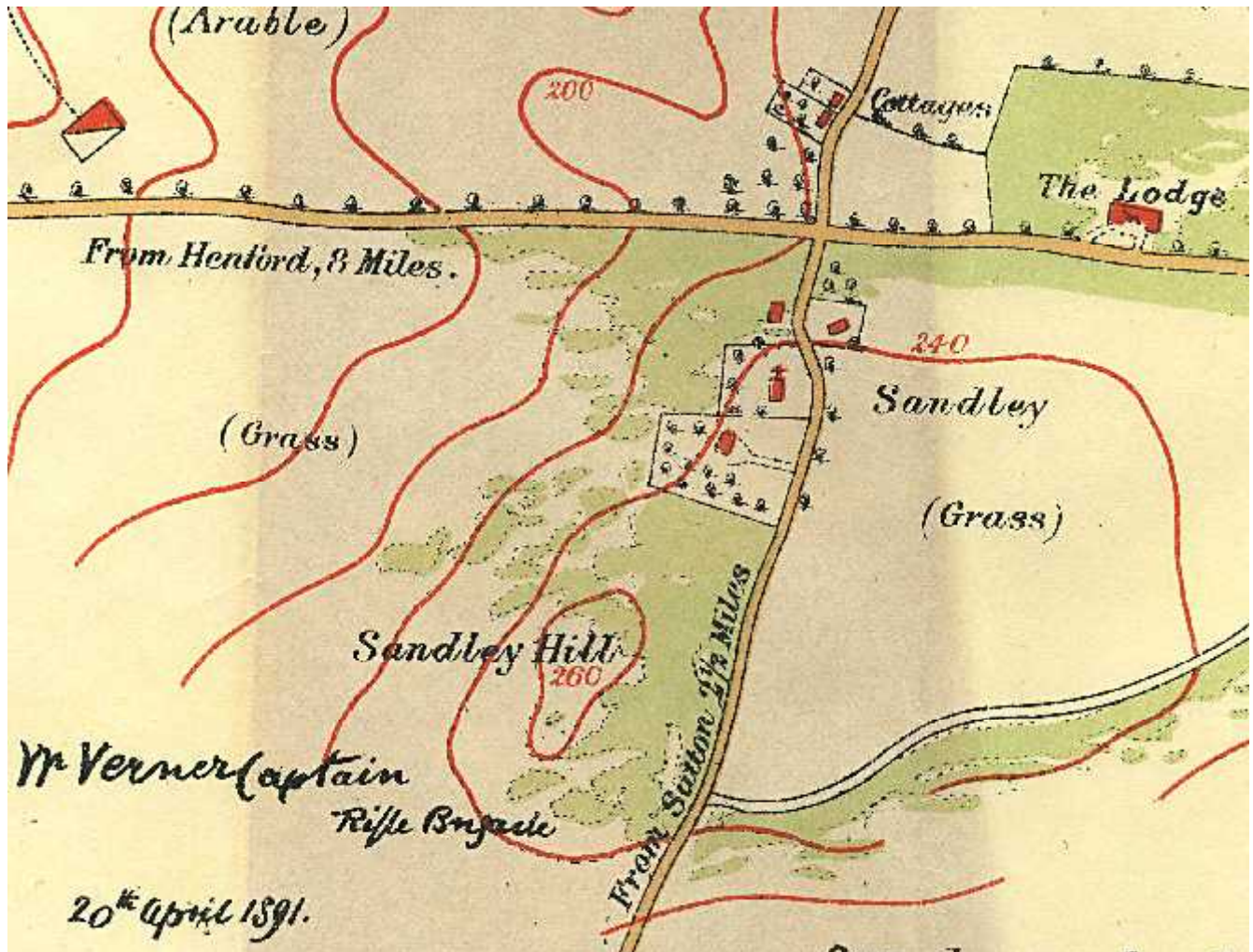


Figure 3. Part of the specimen sketch, signed by Willoughby Verner in 1891, included as an insert in the *Text Book of Military Topography* (1898); observe the church symbol

Although the choice of witnesses would have been restricted to those who were available at comparatively short notice – the Committee was appointed on 22 March, and took verbal evidence on 5 and 8 April – if there is a common thread, then it seems to be the Sudan expedition of 1884-5 and its eventual commander, Wilson.

The replies of some witnesses suggested that their experience of Ordnance Survey mapping was perhaps geographically and temporally limited. For example, Lieut-General Goodenough thought that footpaths were not shown, and that windmills should be shown; Verner also thought that windmills should be

²⁴ The specimen was included as an inset in *Text book of military topography*, London: HMSO, 1898.

shown. This was a natural reaction for men who used pre-1885 New Series mapping of south-east England, but had either been familiar with recent New Series sheets they would have known that Wilson had already addressed these points. Both oral and written evidence showed that there was nothing approaching consensus on scales, relief depiction or the use of colour. Evidence to the Dorington Committee showed a similar diversity of views on relief and colour; for the civilians there was no scale-question.

The Baker Committee's recommendations and the longer term

The Baker Committee made a number of recommendations which have been explored in more detail elsewhere, notably that a separate 'military' one-inch be produced, in colour, which would differ in some content from its engraved civil counterpart.²⁵ In the event, some of the 'military' information, such as an improved road classification, postal facilities, and distinction of church steeples, was added to the basic civil engraved map, and the 'military' map was in essence a colour-enhanced derivative of the civil map. It lacked the surveyed additional contours asked for; additional contours did reach the one-inch in 1914, but they were interpolated. The Baker Committee had asked for parish boundaries to be omitted from the 'military' map, but they stayed: it was symptomatic of the coloured map being, so far from something distinctively military, simply the cheapest possible compromise. Tim Nicholson noted, in his study of the early one-inch coloured mapping, that at first it was 'on probation', and that its extension from the area of greatest military interest, the south-east, to the rest of England and Wales (and, by implication, to Ireland and Scotland) seems to have been for civil rather than military reasons.²⁶

The Baker Committee also discussed, more briefly, other scales produced by the Ordnance Survey that were of some military application, notably two-inch maps for military training: the *Cannock Chase* map of 1894 was, like the 'military one-inch', a dilution of their recommendations. However, the Committee made no mention at all of what was to be the most striking development in military mapping in the 1900s and 1910s: the half-inch map.²⁷ The full story of this has yet to be told, but it is clear that by the summer of 1900 the War Office was fully persuaded of the merits of this scale; it used the commercial Bartholomew offering as a makeshift, but in May 1902 the Ordnance Survey was authorised to produce an official half-inch. The map went through a number of styles before the military decided in the early 1920s to revert to the one-inch as their standard scale. The map went through a number of styles before the military reverted to the one-inch in the early 1920s.

²⁵ Nicholson, *The birth of the modern Ordnance Survey small-scale map*, 20; Hellyer & Oliver, *One-inch engraved maps...*, 58ff, 76-104 *passim*.

²⁶ Nicholson, *The birth of the modern Ordnance Survey small-scale map*, 19-24; 'probation' on p.21.

²⁷ For the introduction of the half-inch map see Oliver, *The Ordnance Survey in the nineteenth century*, 443-6; for the re-adoption of the one-inch as the standard military scale, see Hellyer & Oliver, *Military maps*, 10-11.

There are four points to note about the half-inch. First, in 1909 Major Charles Close, then head of the Geographical Section General Staff, indicated the relative military status of one-inch and half-inch when he told the Australian Government that ‘the scale for general issue is $\frac{1}{2}$ inch to 1 mile... with a very small issue of 1 inch maps’.²⁸ Second, whatever the style, the basic content of the half-inch reflected the ‘Baker one-inch’, but with some elements diluted or omitted, for example church steeples and the distinction of railway earthworks. Third – and I do not think this point has been made before in print – the elaborate road classification particularly associated with the one-inch Popular Edition was actually devised for the half-inch map.²⁹ The classification appeared at the larger scale because, in the same way that the six-inch was based on fieldwork at 1:2500, so was the half-inch a derivative of the one-inch. Fourth – and also, I think, new to print – the well-known relief experiments on the one-inch, carried out by Close after his appointment as Director-General of the Ordnance Survey and exemplified by the two Aldershot district sheets of 1914 (*figure 4*), perhaps ought likewise to be seen as ultimately benefitting the half-inch.



Figure 4. Extract from Aldershot (S) (1914), in ‘fully coloured’ style

The Baker Committee observed that ‘Great difference of opinion appears to prevail with regard to the best mode of delineating ground’; it was really a difference between the advocates of pictorial methods, such as hachures, and of

²⁸ Hellyer & Oliver, *Military maps*, 6, quoting report by Close, 29 March 1909.

²⁹ *Report of a Committee which assembled at the War Office at the request of the Director-General of the Ordnance Survey to consider, with regard to the half-inch Ordnance Map:- (1) The question of overlaps. (2) The size of sheets. (3) The system of road classification:* copy in TNA WO 33/3265; the accompanying plate is not present, and the evidence was not printed, and is probably no longer extant. Historians of cartography are in the debt of Alan Kimbell, who ferreted out the report.

contours.³⁰ Pictorial methods pointed to a ‘fully coloured’ map; contours to a ‘coloured outline’ map.³¹ The story of the evolution of the ‘coloured outline’ Popular Edition from the ‘fully coloured’ map of 1914 may yet prove to be as much a matter of functionality as of enforced economies.³² A ‘coloured outline’ half-inch manoeuvre map was produced in 1914, evidently shortly before ‘coloured outline’ versions of the two new Aldershot sheets, which are direct precursors of the Popular Edition (*figure 5*).³³ The origins of the ‘coloured outline’ style have yet to be fully explored, but by 1914 the 1:125,000 of the Orange Free State (GSGS 2230) and the 1:100,000 of Belgium (GSGS 2364) were just two examples, and more appeared during the war (*figures 6 and 7*). One senses functionality as much as economy. One illustration after another in the official account of mapping and survey during World War II is a testimony to the prevalence of the ‘coloured outline’ style.³⁴



Figure 5. Extract from Aldershot (S) (1914), in ‘coloured outline’ style

³¹ The phrase ‘coloured outline’ appears in the letterpress of the buff bookfold covers found on sheets of the one-inch Third Edition (Large Sheet Series) and Popular Edition dateable to 1919: ‘Map... in colour or in black outline... A popular edition in coloured outline is also in course of publication...’ The phrase ‘fully coloured’ occurs in J.H. Andrews, *A paper landscape*, Oxford University Press, 1975, 293, 294, in the context of the style introduced in 1901, with hachures and green woods, but I think it is reasonable to use it for the more elaborate style of one-inch that Close developed after 1911.

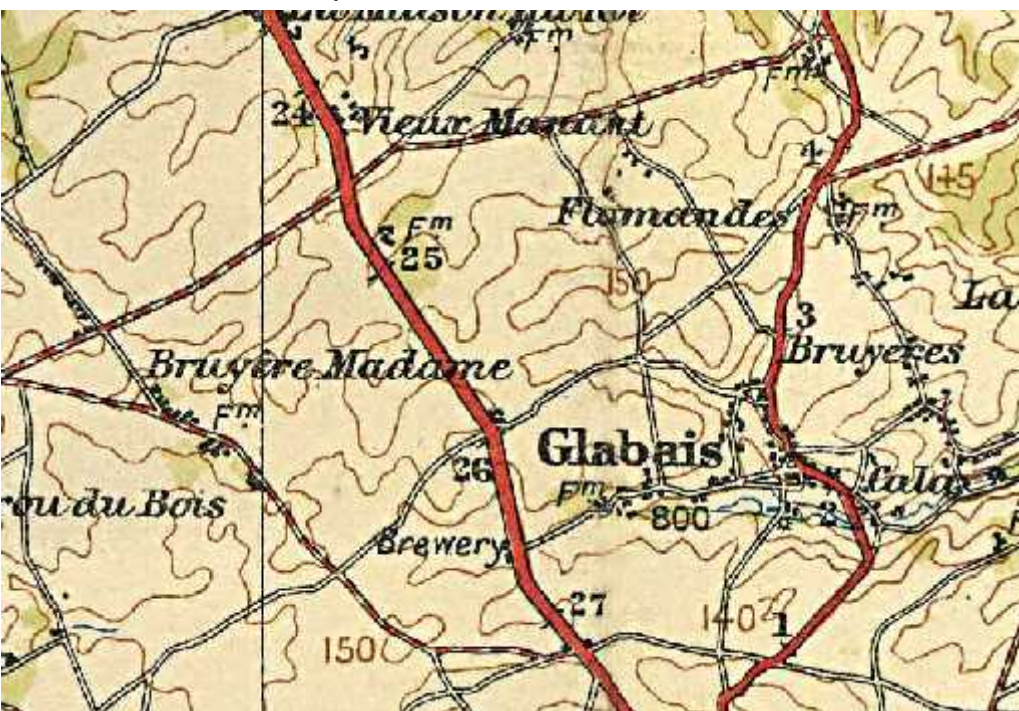
³² For the ‘enforced economy’ see Hodson, *Popular maps*, 19-29.

³³ I am indebted to Roger Hellyer for details of the 1914 manoeuvre map. A third version of the Aldershot (S) sheet is known in a private collection, with hachures but without layers.

³⁴ A.B. Clough, *Maps and survey*, [London:] War Office, 1952: 23 of the 57 plates are classifiable as ‘coloured outline’ in character, but several of the other plates are of ‘improvised’ mapping where production in ‘coloured outline’ form would perhaps have been an unrealistic call on resources.

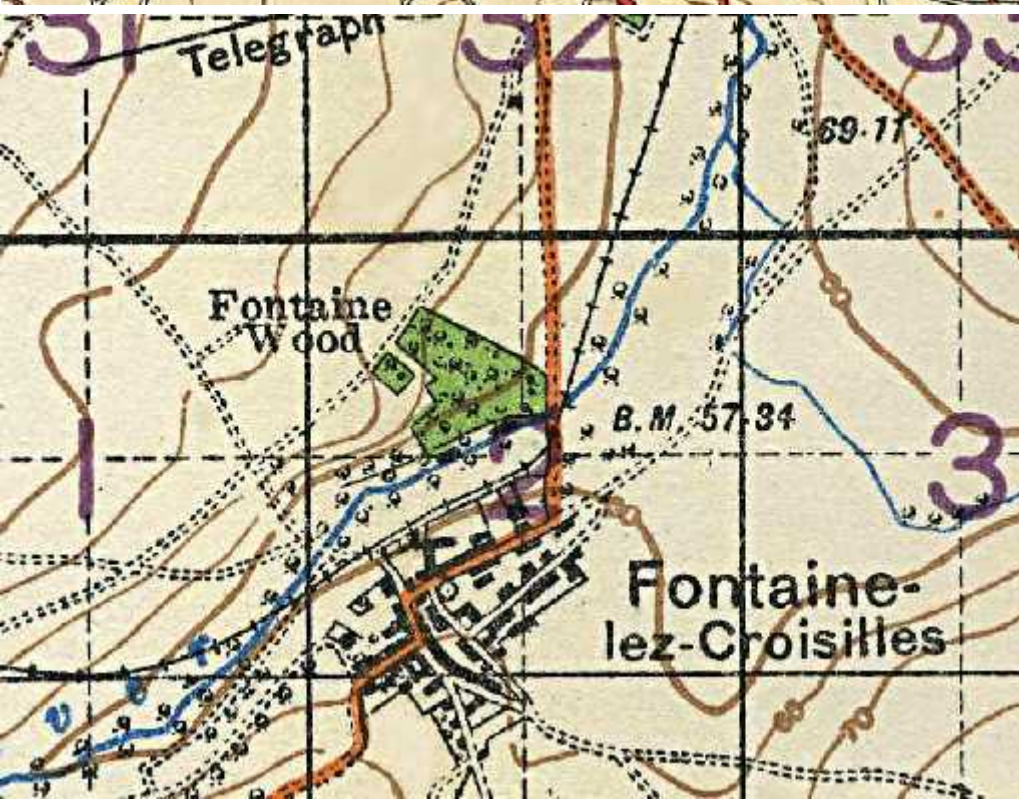
Conclusion

It is fair to conclude, as Peter Collier does, that the coloured form of the standard Ordnance Survey one-inch that began to appear in the mid 1890s can be credited as an achievement of the Baker Committee; the Committee was also influential – more indeed than it perhaps intended – on the content of the predominantly civil-user basic monochrome one-inch. However, what was achieved was overall less impressive, and a great deal less expensive, than what the Committee recommended. The Committee failed to anticipate that a requirement might arise for a military half-inch map. Its recommendation of a coloured one-inch with hachures was at odds with what would prove to be the prevailing form of both civil and military topographic mapping for much of the twentieth century: the contours-only ‘coloured outline’ form.



*Figure 6 (left).
Extract from Belgium
1:100,000 Brussels (later sheet
5), GSGS 2364 (1910), with
road infills in solid and
'dotted' ('poor surface') red*

*Figure 7 (below).
Extract from 1:40,000
mapping of Belgium and part
of France, GSGS 2743, sheet
51B, Edition 2, October 1917;
note the burnt sienna road
infill*



Roger Hellyer adds:
Peter Collier reports (*Sheetlines* 99, 51) that only one copy of IDWO 971 Aldershot Division Autumn Manoeuvres, 1893 is known, in the British Library. There is in fact a second copy in the National Library of Wales. And there is also an additional copy of the Cannock Chase manoeuvre map, IDWO 1030, to which he refers, in the Bodleian Library, Oxford, transferred from the School of Geography collection.

A view of the Grampians observed in 1818 and published in 1820

***David L Walker*¹**

In the course of the initial triangulation of Scotland, Captain Thomas Colby (who was usually in a hurry) unusually allowed Mr James Gardner at Ben Cleugh to record a panorama of the Grampian mountains. Back in London, Gardner had his work engraved and published as an aquatint six feet wide, from which the following extracts (comprising about twelve percent of the panorama) have been photographed. Handsome in itself, it demonstrates the versatility of James Gardner, and his key to the panorama shows the heights of a dozen Scottish mountains, and provides one of the few progress reports between 1811 and 1856 on the development of the initial triangulation of Scotland.²

As their first observations of Ben Nevis were achieved from Ben Cleugh³, Colby may have been more tolerant than usual, or he may have expected Gardner's panorama to prove useful later. It extends over 85 degrees from about west to about north and, subject only to vertical exaggeration, compares well with the computer assisted panorama calculated from OS data by Jonathan de Ferranti⁴ – and it shades the background mountains particularly effectively beyond the foreground hills. James Gardner had been appointed to the Survey by William Mudge on the advice of John Rennie, the eminent consulting engineer, on a salary of £100 a year.⁵ As James Gardner does not appear in the will⁶ of William Gardner, head draftsman at the Tower until he died in 1800, they presumably were not related.

Apart from the East Sussex Record Office, the 1820 edition of Havell's engraving apparently survives only in the British Museum collection, although in 1875 it was lithographed and mounted on linen (with the key) by James Knipe.⁷ It was also copied in John Thomson's *Atlas of Scotland* published in 1832.⁸ But this version shades the hills less effectively than Havell's original, and does not include Gardner's key.

¹ The author is a retired civil engineer, who once was captivated by the panorama of the Grampians visible from Ben Lomond, and also frustrated by thick mist at the summits of The Cobbler and Ben Nevis.

² David L Walker, 'The initial triangulation of Scotland', *Sheetlines* 98, 5-15 (2013) provides the background.

³ Colby with Gardner had been unable to observe Ben Nevis from Glashmeal in June 1818: Capt A R Clarke, *Account of the observations and calculations of the principal triangulation etc*, London 1858, 114.

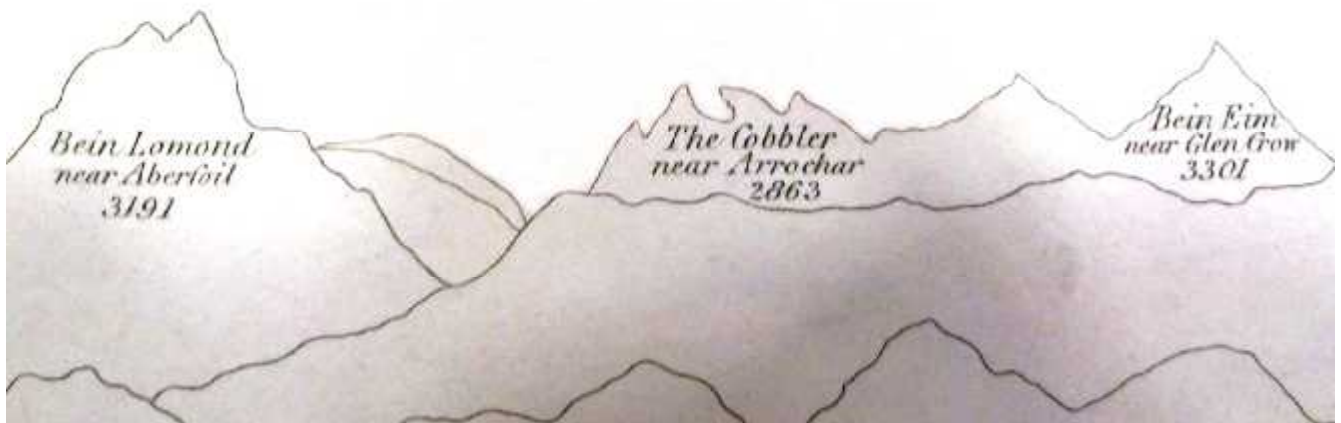
⁴ www.viewfinderpanoramas.org - panoramas, Ben Cleuch (North) - based on OS digital elevation data.

⁵ 17th Report of Commissioners of Military Enquiry, Parliamentary Papers 1812 (5) IV, 168-169.

⁶ Will of William Gardner, of the Ordnance Office Drawing Room Chief Draftsman of Tower of London, Middlesex, The National Archives, 3 April 1800, PROB 11/1340/41.

⁷ This edition is in the map catalogues of the British Library and the National Library of Scotland.

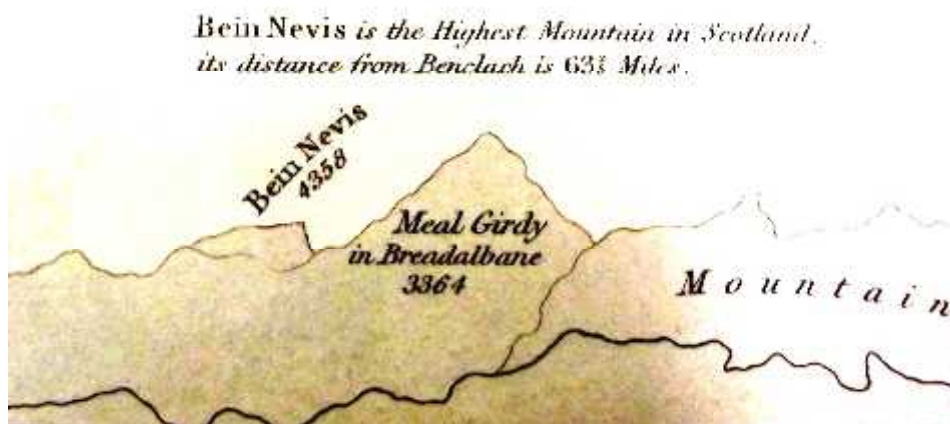
⁸ John Thomson's *Atlas of Scotland*, 1832, National Library of Scotland, map images at maps.nls.uk, ix.



From the Summit of Bein Lomond the German and Atlantic Oceans are both visible , also the Cities of Edinburgh and Glasgow, the former at a distance of $58\frac{2}{5}$ Miles. The greatest diameter of the visible horizon is $152\frac{1}{2}$ Miles, Knock Layd near Ballycastle in Ireland being S.W. $95\frac{1}{4}$ Miles, and Carn Gowar in Athol N.E. $57\frac{1}{4}$ Miles; from Benmore in Mull to Sayrs Law in Lammermuir (another diameter) the distance is E.S.E. $136\frac{2}{3}$ Miles, and from Buianoch in Lochaber to Cairnsmuir near Carsphairn, the diameter is in a Southerly direction $119\frac{1}{8}$ Miles, so that the circumference of the visible Horizon cannot be computed at less than 450 English Miles.

above and opposite:

Extracts from A view of the Grampian Mountains from the Summit of Benclach the highest of the Ochil Hills, delineated and published by J Gardner, employed on the Trigonometrical Survey, January 1st 1820; engraved by Daniel Havell 16 Howard St, Strand, London; from ref GIL/4/8/236/1/237 by kind permission of East Sussex Record Office.



Thomson's version of Gardner's panorama is accompanied by a 'Comparative View' of Scottish peaks that shows heights different from Gardner's. These are included in the tabular analysis below, which appears to confirm that the heights on Gardner's panorama were calculated trigonometrically from observations made in 1818 (and perhaps in 1816). Mudge and Colby in 1811⁹ had published heights of hills and mountains observed until then, together with an account of the allowances made for refraction, as well as the curvature of the earth. Significantly, the percentage errors in those heights for Criffel, Wisp Hill, Dunrich and Sayrs Law in the south of Scotland were very similar to (and in the same directions as) the errors shown below for 1820.

Gardner's mountain heights are very interesting in showing that accurate triangles extending as far as Ben Lawers and Ben Nevis must have been calculated in 1818-19 (although these stations were not occupied until many years later). But who made these calculations?

⁹ William Mudge and Thomas Colby, *An account of the trigonometrical survey carried on by order of the Master-General of his Majesty's ordnance, in the years 1800-1809*, London, 1811.

<i>Heights in feet of Scottish mountains named in Gardner's panorama</i>							
<i>Name in 1820</i>	<i>Name today</i>	<i>Ht. 1820</i>	<i>Ht. today</i>	<i>1820 error</i>	<i>Roy 1777</i>	<i>Wilson 1807</i>	<i>Thomson 1832</i>
Bein Lomond		3,191	3,195	-0.14%		3,240	3,270
The Cobbler	Ben Arthur	2,863	2,890	-0.95%			
Bein Eim	Beinn Ime	3,301	3,317	-0.48%			
Bein Ledi		2,863	2,884	-0.72%		3,009	3,010
Bein Lui		3,651	3,707	-1.52%			
Stobinnain	Stob Binnein	3,794	3,822	-0.74%			
Bein Mor		3,818	3,852	-0.87%	3,844	3,870	3,900
Steuchnachrone	Stuc a Chroin	3,171	3,199	-0.87%			
Bein Vorlich		3,207	3,232	-0.76%			
Bein Feskinich	Beinn Heasgarnich	3,482	3,537	-1.55%			
Bein Nevis		4,358	4,406	-1.09%		4,380	4,340
Meal Girdy	Meall Ghaordaidh	3,364	3,409	-1.31%			
Bein Lawers		3,944	3,983	-0.98%	3,978	4,015	4,010
Beinachony	Ben Chonzie	3,028	3,054	-0.87%			
Schiehallion		3,513	3,553	-1.13%	3,573	3,587	2,880

Thomas Colby was not known for making such calculations himself. James Gardner had made the observations from Wisp Hill and Sayrs Law in 1809 (and many other stations in subsequent years), and would have been ready to learn how to calculate mountain heights. Simon Woolcot, who had supported Mudge's work on refraction, had been active in calculating triangles and heights until his death on 19 April 1819.¹⁰ So presumably Woolcot had either calculated, or had provided the advice that enabled Gardner to calculate, the heights shown on the key to the 1820 panorama.

Estimates of the heights of mountains in the eighteenth century (and the early nineteenth century) had mostly depended upon barometric observations, as described by William Roy in 1777.¹¹ His results (adjusted to allow for the heights of his base stations but not the tidal datum) appear brilliantly close to present day figures. But it still has to be established how Joseph Wilson¹² arrived at the figures he published in 1807, and where John Thomson's artist Mr Mackenzie found those published in 1832.¹³ Against the background that it still had to be accepted that the height of Ben Lawers was less than 4000 feet, and, at least in Aberdeenshire, Ben Macdhui was still thought to be higher than Ben Nevis,¹⁴ it would be interesting to know more about the estimation of the heights of Scottish mountains before the completion of the principal triangulation of Scotland.

Correction. *Sheetlines* 99, 17, footnote 49. Airy to Biot, 12 Feb 1850. Amend RGO 6/362, Cambridge University Library Archives to RGO 6/372, Cambridge University Library Manuscripts.

¹⁰ Sir Charles Close, *The Early Years of the Ordnance Survey*, 1926: republished with an introduction by JB Harley, Newton Abbot: David & Charles, 1969, 49-52.

¹¹ William Roy, 'Experiments and Observations made in Britain in order to obtain a rule for measuring heights with the barometer', *Phil. Trans. R. Soc. Lond.* 1777, vol 67, 653-787.

¹² Joseph Wilson, *History of Mountains, Geographical and Mineralogical, accompanied by a Picturesque View of the Principal Mountains of the World by Robert Andrew Riddell*, London, 1807.

¹³ *A comparative view of the heights of the principal mountains of Scotland*, John Thomson's Atlas of Scotland, 1832, National Library of Scotland, map images at maps.nls.uk, ix.

¹⁴ Aberdeen Journal, 19 September 1832.

An unusual surviving railway pier

Mike Horne¹

There is a place on the Somerset coast, called Burnham-on-Sea, not very far away from Weston-super-Mare. It is an unassuming seaside town quietly getting on with itself and in better shape than many. It has a picturesque parish church with a tower that leans appreciably, but not, apparently dangerously. By quirk of fate it isn't on the railway any more, but it was once not only on the railway, but also served railway shipping services, hence my interest in the place.



Burnham Pier from Esplanade

There is at Burnham what might be termed a pier, but is better described as a slipway (which is what it is used for today). The slipway hold two interests for me. First, it has a curious relationship with the Ordnance Survey, which, apparently on some random basis over seventy years or more shows it or omits it from its maps. Secondly, it was built by the Somerset Central Railway in 1862 and its survival is something of a curiosity. I shall call it Burnham Pier, as that is shorter, but do not imagine it looks anything like Brighton or Bournemouth.



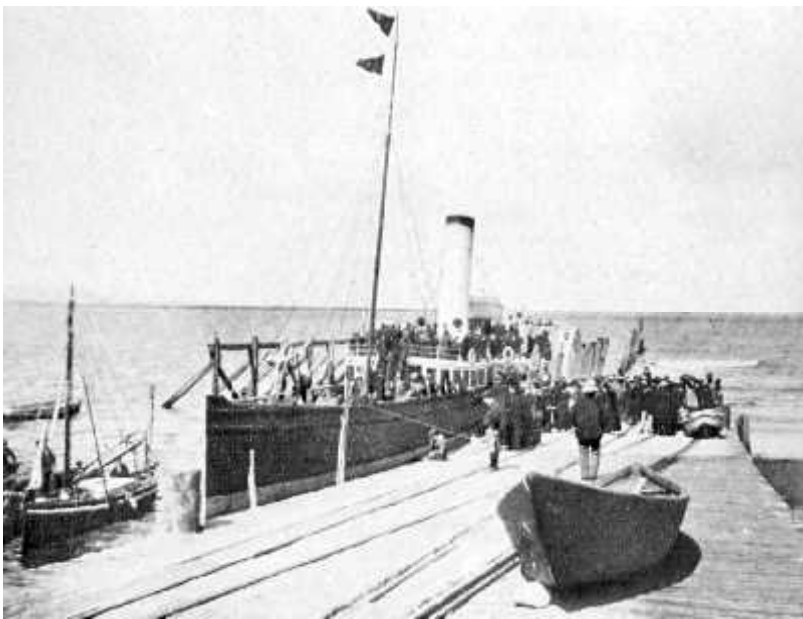
Extract from current OS 1:25,000 map showing the pier. The curved road leading towards the pier is the old railway. Note low and high water mark.

The Somerset Central Railway opened from Highbridge to Glastonbury on 28 August 1854 and was later much extended to Wells, with a junction with the Dorset Central at Evercreech. It then became part of the Somerset & Dorset Railway. Highbridge was an inland port near the coast, on the River Brue, and could offer convenient wharfage facilities for the railway to exchange goods. By the time the railway opened it was eyeing up the possibilities of trade with some of the new or enlarged ports on the Welsh coast, South Wales being an extremely inconvenient journey from Somerset (or points west or south) by road. For passenger traffic, Highbridge was not then very suitable and a 1½-mile extension,

¹ The author is a writer and historian. This article first appeared on the author's blog site <http://machorne.blogspot.co.uk/2013/09/an-unusual-surviving-railway-pier.html>
Photos copyright the author unless stated.

north west, to Burnham was considered, with some facility there for connecting passenger trains with steamers. This opened on 3 May 1858 and, like the rest of the Somerset Central, was operated by the Bristol & Exeter Railway. It was also a broad gauge line, and required converting to standard in the 1870s.

The station was built about 50 yards east of the sea wall, at the south end of Alfred Street (now High Street), and comprised one of those early affairs where a wooden shed covered one end of the main platform (there was a run-round line outside the shed, too, soon acquiring its own platform for excursion trains). Beyond the station, the track continued until it ran onto a newly-constructed stone pier, the railway continuing to the end. Reports suggest the pier was 900ft long. Today it only extends 740ft so the quoted length may include the short section into the station (I believe it has been cut back slightly though). There was a substantial level difference between the pier and sea wall, resulting in a formidable incline (then of 1:23, but today steeper); this precluded operation of locomotives or passenger stock entering the pier, where the track seems to have been used for trucks delivering goods, produce and cattle to the steamers, and possibly passenger luggage. The final part of the trip to the slipway was initially by propelling locomotive and then control by wire rope. There is an unsubstantiated story of a loco running away onto the pier, only the drag of the high tide water preventing it going off the end.



*Burnham Pier in
1908, short siding
on right.*

On the opening day the *Iron Duke* berthed alongside the pier on a trip from Cardiff, arriving at about 10am. Later the same day an excursion train from Bristol arrived, carrying about 700 people and a railway brass band that made its way to the pier (and possibly enjoyed a short voyage). The following month (June) the Cardiff Steam Navigation Company began running the steamer *Taliesin* on a regular basis. It was certainly in use during May 1858 for a paddle-steamer service to Cardiff, a service that endured, on and off, for some years. It is impossible, today, to imagine boats coming anywhere near the pier, let alone calling at it, but channels were created to allow large boats to come alongside, at least at certain

states of the tide (which has a curiously large rise and fall here); the tidal position here was to become a real problem. There was an occasion when the *SS Ruby* got stranded at Burnham during a receding tide and broke her back. To reduce constant (and partly ineffective) dredging, a 'sluicing pond' was constructed to reduce the effect of silting.



In this 1915 postcard the track can be clearly seen on the right, the rails situated in gulleys in the setts. The remains of the various wooden mooring or guiding structures can be seen on left.

The Somerset & Dorset was part owned by the Midland Railway and as the difficulties of improving small southern ports manifested themselves the company gradually shifted its shipping interests to larger ports further north. In 1905 parliamentary powers were sought to sell or abandon the pier, which in due course resulted in its purchase by the Burnham Pier company. Steamers continued to operate, one service served Barry Island, on the Barry Railway. This railway obtained powers to develop the pier, but it was not a successful venture, and in 1910 its four vessels were sold. Steamers were also operated by P&A Campbell Ltd, but these had ceased by 1900.



The end of the pier at low tide before resurfacing. It was in this state possible to make out where the old track had been. The remains of extensive wooden posts can be seen on right. Huge arrays of posts at one time adorned both sides of pier to assist ships manoeuvring.

Attrib: Chris Talbot , Geograph.co.uk. Creative Commons Licence.

After use by steamers, the rails next to the railway station were connected into the lifeboat house, and the pier was then used to launch lifeboats from; the lifeboat station and siding went out of use in 1930, after which the pier was disconnected from the station (the surviving stub end to what was now the esplanade being used as an engine run-round). The esplanade was extended south across the former line at about the same time, but there was never (I think) any level crossing. The pier rails remained in position for some years, but most gradually disappeared, though it is recorded a few were still in situ after WW2, and my own

inspection about a decade ago still found a couple of short sections in the stone setts (that marked the edges where other rails had been).



Sea end of pier in 1970 (and as I first recall it). I'm wondering if asymmetric position of track (of which a small section of rail then survived) was because it was originally broad gauge. If so the wide rail hasn't left an obvious trace.
[The late Chris Handley]

The Barry Railway, having abandoned the pier in 1910 and its aspirations to develop the pier and its traffic, appears to have left it to the local residents to sort out and it soon became the responsibility of the local authority, in whose hands it remains. It was handy for a while for local fishermen to use to land small catches for sale in the town. It was last used by a large ship in 1929, the dredger *Manley*, used to convert part of the sluicing pond into something more useful. After its departure the channels were simply allowed to silt up.



Burnham station showing truncated pier line now used as run-round.



Similar view today (taken a little farther back).

Station building had been dead ahead. Pier behind photographer and link line was to right of bollard.

For some reason the far north end (where it joins the esplanade) has been replaced by a short concrete section, probably because the original metalwork had corroded, but when I found the pier it was largely surfaced with setts, and seemed to me perfectly satisfactory. A recent visit shows that the Council (which now owns the pier) has attempted to resurface it. This did not at first work as the tide lifted the surfacing (the setts were fine). This seems to have been fixed now. To me it is a great shame the historic pier end has been obliterated by ubiquitous tarmac that gives the impression it is a main road (an appearance supported by the yellow lines). No-one cares about history today, it seems, or no-one official anyway.



Even at moderately low tide the pier end is covered for some distance. This cannot have made it very useful (assuming tide levels haven't altered much over last century).

The station at Burnham closed to passenger traffic on 29 October 1951, but remained available for seaside excursion trains until 8 September 1962. It finally closed to goods on 20 May 1963. It is perhaps surprising train services to a seaside resort were withdrawn quite so early, but perhaps a revealing indication that much of the business came from excursion trains. Having said that, the 1950 timetable reveals the Burnham line was worked as a branch from Evercreech, with just four trains a day and exceedingly poor connections, so perhaps that might have had something to do with it. The trackbed lay derelict for many years but in the 1980s a road (Marine Drive) was built along much of it and the site of the station is not obvious unless one is in the know.

During the period the pier was in active use, the Somerset & Dorset at various times itself owned eight ships of various kinds, the smallest of 59 tons and the largest 239 tons (a wooden paddle steamer). The last two ships were disposed of in 1934, the *Radstock* being sold and the *Julia* scrapped. Many other ships were chartered by the railway as needed, however. It is curious to see the S&D owning ships when it never had any rolling stock of its own.

The main service operated in the early years was a ferry between Burnham and Cardiff. The S&D originally had no powers to operate ships, which were initially hired in but soon were purchased and operated by an associated company, the Burnham Tidal Harbour Co (which never developed the intended tidal harbour but was useful in being able to run ships as though it were the railway itself). One ship was briefly sent to the south coast to operate a Poole - Cherbourg service, a connecting Poole - Burnham train allowing through traffic from Cardiff using the Burnham ferry. This was a roundabout route, but not as

roundabout as a ship having to run round the Scillies. The railway last ran the Cardiff service in 1888 after which the pier was of little interest to the railway and it fell increasingly into disuse for its original purpose.



Burnham-on-Sea station looking towards pier, probably after closure to regular passenger trains. The excursion platform is on left.



Burnham Pier is shown on one-inch Popular and New Popular maps, such as 1946 sheet 165 (top) but is missing from some editions of Seventh Series, such as 1958 sheet 165 (middle). Note the town name is not hyphenated on the earlier sheet.

The pier appears on Provisional 1:25,000 sheet ST34 (1959) (lower left) and on modern 1:25,000 Explorer maps (as shown on page 27), but is missing from 1999 Explorer edition A.



The extract lower right, showing the railway running along the pier, is from six-inch County Series Somerset sheet XXV.SE, revision of 1929 with additions in 1938, published 1949 (on which the town is not hyphenated).

These map extracts are taken from National Library of Scotland on-line mapping at <http://maps.nls.uk>, with grateful thanks.

The editor would be glad to hear of other editions of OS sheets on which the pier is omitted.



ARP revision, 1938

Rob Wheeler

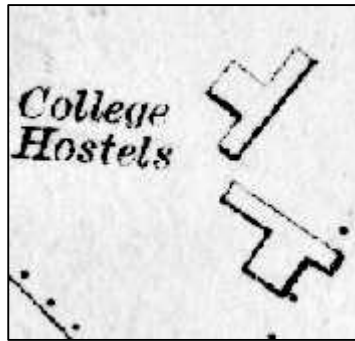
In 1938-9, at the behest of those responsible for Air Raid Precaution (ARP) measures, at least 3058 six-inch sheets were issued in a Special Emergency Edition (SEE), incorporating information from one-inch revision, recent 1:2500 revision, and special surveys. Quality of survey (for these *ad hoc* surveys) and of drawing was sacrificed for speed.¹ SEEs were not put on sale or deposited in copyright libraries. However, sheets covering towns were issued from 1944² in the National Grid Provisional series. Often these sheets had a short life, being superseded by later editions which incorporated information from aerial photography of 1946-9. Based on a very small sample, these early National Grid Provisionals were not redrawn, but merely had 1km grid lines added.³ Such sheets can be recognised by the heading 'Revision of 19** with additions in 1938'.

Thus what I write about the interpretation of ARP revision data applies both to SEEs and to National Grid Provisional sheets derived from them, although it is based largely on the latter.

The new material on SEEs relates only to buildings and roads. The buildings added stand out because they are drawn without fill, albeit shaded – lines to E and S are thicker. They fall into three categories:

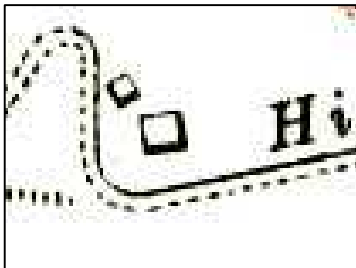
1) *Small, isolated*. Typically these are the size of a large house and are always shown as rectangles.

(2) *Small, in a line*. Typically these are suburban houses and are drawn



without gaps between them as a continuous line, which may follow the bends of a road. Figure 1 (*far left*) shows an example from SEE sheet Leics 17NE.

(3) *Large*. Typically these are factories, but figure 2 (*left*) shows student accommodation



at what is now Loughborough University from the same map. They are large enough to be shown with more complex shapes.

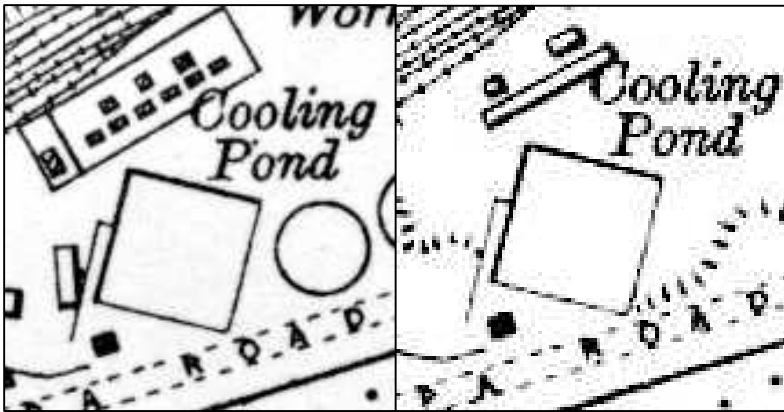
Interpretation is not always straightforward. Taking category (1), figure 3 (*left*) shows part of Highview Road, Lightwater, from Surrey sheet 16NW. The two buildings appear in a similar relationship on the OS six-inch of

¹ Richard Oliver, *Ordnance Survey maps: a concise guide for historians*, (London: Charles Close Society, 2005), 42.

² Some sheets were issued from 1943 without the grid, and until mid-1945 there were no marginal figures.

³ Minor changes include the addition of MOT road numbers from c1945 and the deletion of administrative boundaries where they overlay new detail.

1961, where they have been drawn more accurately, and on the 1:2500 of 1971. From these later maps it appears that the larger house lies ESE by E of the smaller, and a property boundary following approximately a north-south line passes between them. The surveyor must have estimated their positions and dimensions without leaving the road. That such inaccuracy was by no means isolated is shown by the note on Surrey 25SE that administrative boundaries had been deleted where they passed through areas of new detail because relative positions could not be relied upon: the map might appear to show a house as lying on the wrong side of the boundary.



towers to the east of it and, to the north, a compound which perhaps contains switchgear; at any rate, we can be confident that the small rectangular buildings inside it are not houses. Just west of the cooling pond is an unfilled building which must be derived from RAF Air photography. Contrast this with figure 5 (*above right*) from the 'A' edition based on the revision of 1930 with additions in 1938. There are no cooling towers yet. But the point to note is that the row of six buildings shown in figure 4 has been simplified into a single elongated building. Making sense of this on the basis of figure 5 alone would be a real challenge.

There is another category which could be added to the list:

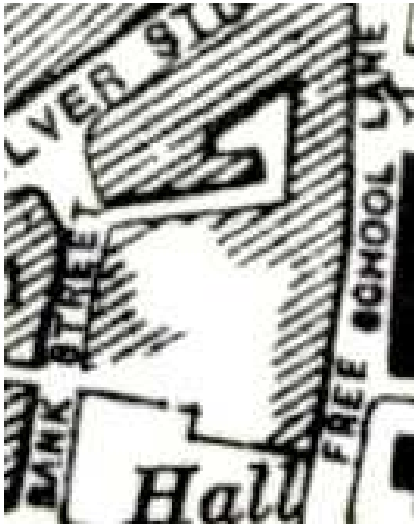
(4) Changes to large buildings. This might, for example, take the form of extension of a factory: the old external wall that is no longer external would be cleaned off the drawing and the new external wall added. Thus the diagonal hatching will remain for the old building, whilst the extension will be unfilled.



Figure 6 (*left*) gives an example from the same map as figure 4: the rectangular area with diagonal hatching on the north side of Vere Street had been shown as an isolated rectangular building on previous editions of the six-inch; now it has been extended east and west along Vere Street. The odd proportions should make one a little suspicious.

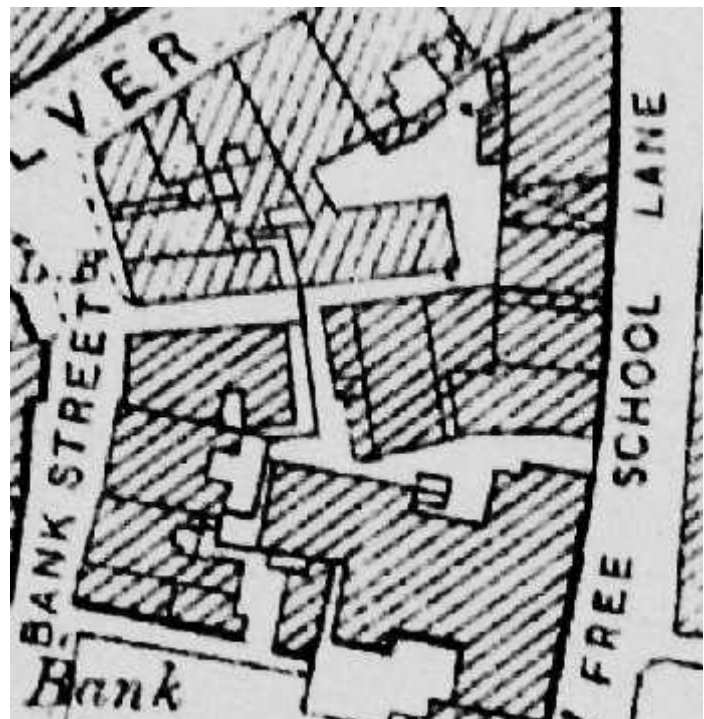
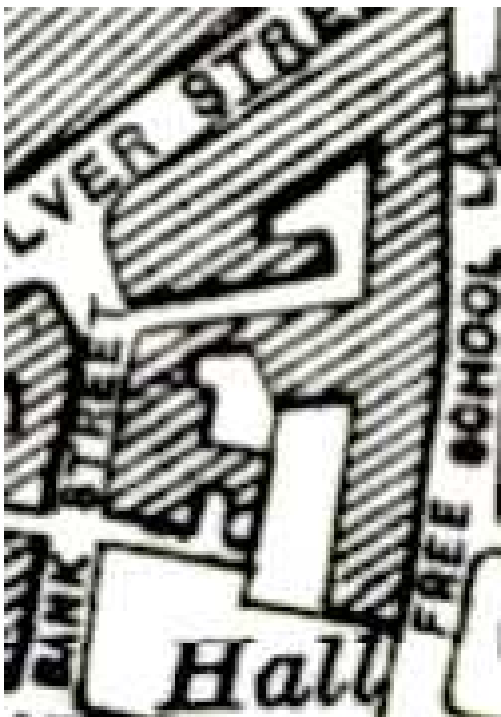
Inspection of modern satellite imagery shows that the 'rectangular building' is actually a block of terraced housing; the 'extension' to the west is actually three pairs of semi-detached houses, that to the east is a detached block of four houses. The terraced houses appear deeper than the later houses because they have rear wings. The 'extension' south of Lark Lane turns

out to be of the same nature. Given the increased degree of generalisation allowed, one cannot fault the depiction here. And, as it happens, this is not ARP revision: the changes occur on the 'B' edition, not on the 'A' edition.

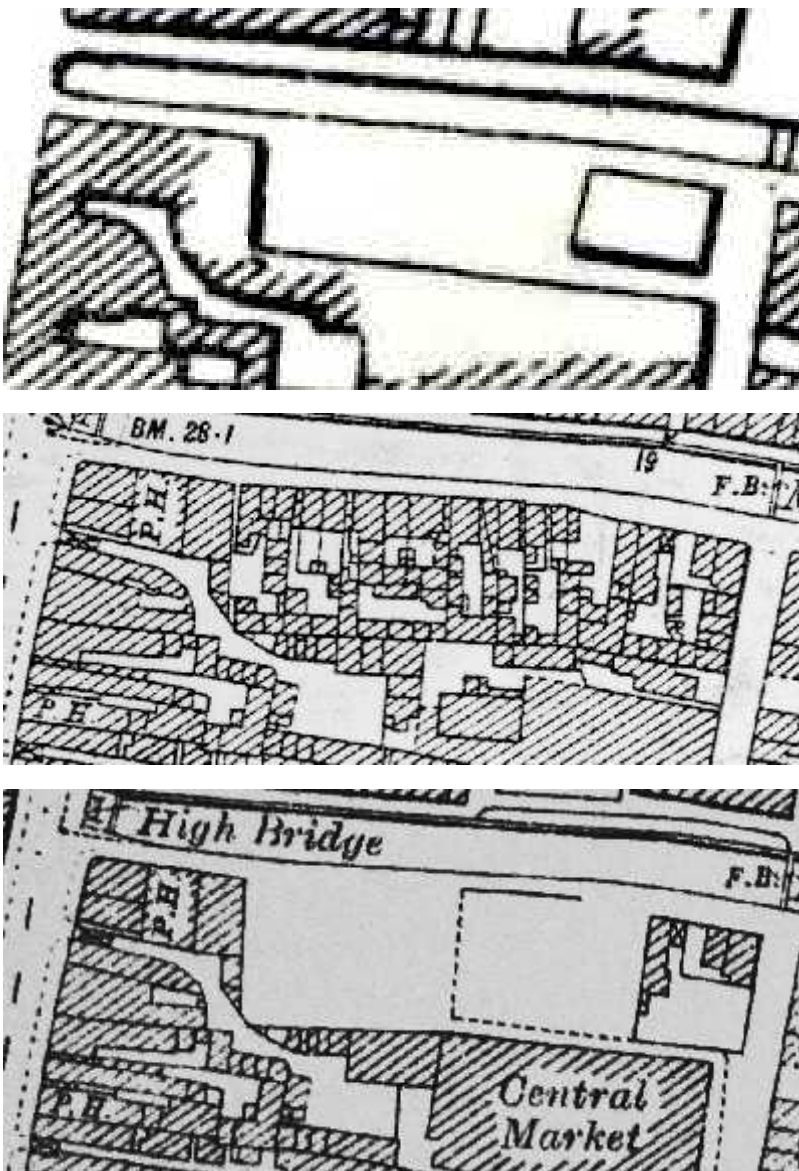


An example which does represent ARP revision is shown in figure 7 (*left*), from the same map as figure 5. What is one to make of the piebald diagonal hatching on the block between Bank Street and Free School Lane? An answer is suggested by the previous edition of the six-inch, based on revision of 1930, shown at figure 8 (*lower left*). One might presume that the block has been redeveloped, filling the yards at the back. And undoubtedly there are cases where such a presumption would be correct. In this case we can view the 1938 revision of the 1:2500 (Sheet 70.7) to see what the ARP revisers were faced with (figure 9, *lower right*). What had actually happened is that the

building on Free School Lane (Lincoln Co-op) had extended back, taking up some but not all of the yards. Undoubtedly figure 7 is a better depiction than simply leaving the map in the form of figure 8. But it seems surprising, given the pressures to which surveyors and draughtsmen were working, that this alteration was thought worth making.



The final example, also from the 'A' edition of Lincs 70NE, is the one which stimulated this investigation. Figure 10 (*next page, top*) shows the area in Lincoln now called City Square. Along the northern edge runs the River Witham, from the medieval High Bridge, just visible at the left-hand edge, to a footbridge at the eastern boundary of the extract. The questions I had posed were, firstly, what is



the 'new' building just SW of the footbridge – nothing is there now – and what is going on to its south, where a new frontage appears to be shown which is not parallel to what was there before. One of the reasons for making so much use of Lincoln in these examples is that there were 1:2500 revisions in 1930 and 1938 to provide a measure of ground truth. Figure 11 (*centre left*) shows the area in 1930: all along the south bank of the river is a jumble of small houses and courts (probably of great historical interest) concerning which the City council was about to make a slum clearance order. Figure 12 (*lower left*) shows the same area in 1938. Most of the property fronting the river has been demolished, but a small group remains at the eastern end next to the footbridge.⁴ To the south, a new covered market has been built:

according to a plaque, it opened in May 1938.

So in this case, what appeared on inspection of the ARP revision to be a new building turns out to be old; whereas the building to the south, which seemed to be merely altered, was actually wholly new. One can see how it came about: it must have been easier to delete all the buildings fronting the river and redraw what remained; likewise the southern part of the new market hall replaced existing buildings, so there was no need to remove the diagonal hatching. The rule of thumb works most of the time but not always.

Figures 3, 5 and 7 are reproduced by permission of the National Library of Scotland. A provisional cartobibliography of Special Emergency Edition sheets is at www.charlesclosesociety.org/SEE

⁴ The end building was the *New Bridge Inn*, which closed in 1939 but became a Salvation Army-run club and then the Markets Office until 1974 – see L Elvin, *Lincoln in the 1950s and 60s*, 1987, view 19.



Nor any drop to drink

Peter Warburton

Some previous owners have deplorable habits. They mark with circles the locations they hope to find and commemorate with crosses places with romantic associations. They ink in their routes and dates. They undertake partial revisions. What these embellishments have in common is that they are indelible and almost always unwelcome. The rare exception is when the additions prompt the well-behaved new owner to spend pleasant hours in Record Offices and libraries satisfying his curiosity. It is a bonus when the artwork exhibits exemplary draughtsmanship.

The early history of this copy of part of Third Edition sheet 51 *Llangollen, Oswestry and Wrexham*, published December 1921 (labelled *Llangollen and District*) is writ large and bold on the front and back 'Return to Eng. Dept 31 Sub Ground'. Neat lettering in the bottom right margin reads 'Warrington Corporation Water 1923'.

Local Authority minutes tend to be frustratingly laconic in style. Decisions are noted but not reasons or debate, dissent is only recorded when some troublemaker insists. The first hint of the Ceiriog scheme in Warrington Council minutes is an unexplained item on 24 January 1921: 'the Engineer be authorised

to arrange for the placing of five rain gauges in the Ceiriog Valley at a cost of £5 per annum for each gauge'. Research has failed to reveal whether local activists sabotaged the gauges, but no readings are recorded in the minutes. On 24 March 1921 the Town Clerk reported that 'the surrounding Authorities were pressing the [water] Committee to proceed with the proposed augmentation of the water supply and he was requested to arrange for the formation of a Joint Committee in connection therewith'. Over the next two years there are references to the fixing of dates for meetings but never any report of their deliberations. The reason for the diplomatic silence became apparent in 1923.

Warrington's need for an additional water source was not in question. Demand was growing and not only was the yield from local bore holes in slow decline, but water quality was deteriorating with a significant increase in hardness. The great weakness of Warrington's case for the Ceiriog scheme was that the borough had an existing legal right to draw two million gallons a day from Liverpool's Lake Vyrnwy undertaking, but any deal with Liverpool was apparently regarded as out of the question. Planning went ahead with the appointment of outside engineers and successful meetings were held with the Ministry of Health. In July 1922 the Town Clerk was empowered to take preliminary steps 'with a view to the promotion of a Bill in the ensuing Session of Parliament' and Agents and Counsel were engaged.

Opinion in the Ceiriog valley was vehemently opposed to the flooding and the restrictions on the use of 13,000 acres of the Berwyn range. The Ceiriog Valley Defence Fund organised the resistance, partly financed by the proceeds from 'Evicting a Community', price one shilling, a slim pamphlet which was widely available. There were no agreed statistics on the numbers of people and buildings affected by the scheme. It depended on whether all structures were included or only habitations and whether buildings above the water line but affected by road diversions or land loss were counted. A feature of the opposition case was concern over damage to local culture and tradition and to the reputation of the valley as the home of poets. This aspect of the defence drew wide support elsewhere in Wales. 'Ceiriog', the highly-regarded lyric poet John Ceiriog Hughes (1832-78),¹ also known as the pianoforte poet, the railway poet (his occupation) and the Robert Burns of Wales, was the best known of the local writers.² His birthplace, Pen-y-Bryn (close to HENDRE on the map), would have remained comfortably above the water line and just outside the catchment area, a point treated rather deviously by his defenders.

Opposition was not confined to Wales. Among the 39 formal petitions to Parliament against the Bill was one from Chester on the doubtful grounds that diminution of the flow of the Dee would be damaging to the salmon fishery. Cheshire probably had a wary eye on the need for an aqueduct across the county if the scheme went ahead: Warrington was then in Lancashire. The Ceiriog

¹ Ceiriog's best known piece 'God save the Prince of Wales', set to music by Brinley Richards and well timed for the Prince's marriage in 1863 is not typical of his work.

² The two other Ceiriog poets represented in the Oxford Book of Welsh Verse are Huw Morus (Hugh Morris) (1622-1709) and Rev Robert Ellis (1812-75).

anglers had no salmon to defend but petitioned on the grounds of inconvenience to their trout. Many of the petitions were lacking in substance, although not in feeling. The weightiest was from Denbighshire County Council. Due deference was paid to the poet Ceiriog lobby and to the danger to the cultural and literary heritage of the valley although a slight ambivalence emerged with the assertion that Ceiriog water might in the future be needed to meet growing demand in East Denbighshire, not in 'a borough so far distant as Warrington'.

The second reading of the Bill in the House on 13 March 1923 was well attended. Neville Chamberlain, the Minister of Health, opened for the Government. His Ministry was not concerned with the subject of Welsh rural life and culture, but with the proven need for additional water for Warrington and the practicality of the proposed scheme. On these grounds they were in favour. R Richards, the local Member, claimed the support of all Welsh MPs for his opposition to the Bill. He quoted figures of 26 farms and 16 cottages as being affected. On the unanimity of local opinion he said: 'It has been suggested that some of the men in the Ceiriog valley are in favour of this Bill. As far as I can understand there are just two men in favour and they do not happen to be Welshmen. They are publicans, as a matter of fact'. In a maiden speech the Warrington member, Capt Reid, spoke competently in favour. The Member for Chester, less convincingly, was against. The last speaker was Lloyd George with a nicely judged blend of Robert Burns of Wales material and reasoned argument. The motion to send the Bill to the Committee stage was passed by 276 votes to 91.³ All seemed to be going Warrington's way, but appearances deceived.

Although the Ministry considered that 'the scheme is well suited, both as regards location and capacity, to supply the needs of Warrington and adjacent districts, [they] would regard it as unduly large and costly for Warrington alone'. They therefore suggested that 'a Water Board should be formed for the purposes of carrying out the scheme, upon which Warrington and adjacent districts should be represented'. A conference, convened by the Ministry, was held on 10 April to consider the matter.

On 28 May 1923 the Town Clerk reported that 'the negotiations for the formation of a Joint Water Board having fallen through, the Water Bill was withdrawn on 13 May 1923. It is a matter of great regret that it has not been possible to secure active co-operation from our neighbours'. Warrington had been beaten, not by fervent resistance in Glyn Ceiriog, but by Ministerial prudence and South Lancashire politics. By the end of 1923 negotiations with Liverpool for the supply of Vyrnwy water were well advanced.

³ The Conservatives held 345 seats out of 615 and their National Liberal associates 62 but this was not a whipped division.

Contour accuracy – some observations

Rob Wheeler

“Contours surveyed on the ground, 300’, 400’, 500’, 600’, 700’, 800’, 900’, 1000’, 1250’, 1500’, 1750’, 2000’, 2500’. Other contours interpolated and only approximately correct.”¹

Most of us are familiar with this caveat on the older maps of the northern part of Great Britain and most of us quietly ignore it. After all, we know that the interpolation took hill sketches and spot heights into account and, between 1860 and 1862, water-levelling was used;² in other words, the intermediate contours were actually surveyed but to a lower standard. If challenged for our complacency, we can always cite Winterbotham:

“The surveyed contours are plotted on hill sketches, and the shape given by the latter makes it easy to interpolate fairly well. ... The rambler, or holidaymaker generally, is not so particular about the exact height. He wants to see the country on the map without having to search and analyse. ...”³

So, suppose our hypothetical rambler proposes to ascend Cairn Hill (NT365387) by the eastern ridge, starting from Pyat Hill. Having read Winterbotham’s words from the 1947 printing of his book, and equipping himself with the almost contemporary Provisional Edition 1:25,000 (*see figure 1*) he expects a drop of less than 85ft from Pyat Hill followed by a steady climb thereafter. Early Knowe rises ahead of him but he is confident that none of his effort will be wasted: the drop between Early Knowe and Cairn Hill, if any, cannot be more than 25ft (or perhaps, if he has been reading Winterbotham carefully, he might be prepared for a 35 or even 40ft drop, since these contours are interpolated). He has a shock in store. On reaching Early Knowe, he finds that the descent to the saddle is actually 120ft. Figure 2 was contoured by stereographic methods, so can be assumed correct.

This case does seem a particularly bad one: perhaps there was some mist hanging around when the hill-sketchers were at work.

The fine wiggles on the contours in figure 2 I have always regarded as typical of stereographic contours. They can be seen again on figure 3, showing another part of the same sheet. Figure 4 shows the same area on the Pathfinder. Presumably the metric contours were interpolated between Imperial ones, and this will necessarily smooth out some of the wiggles. However, the 700m contour ought to correspond almost exactly to the 2300ft one; nevertheless, a lot of the fine detail has been lost. Some form of smoothing has been applied.

One reason for selecting this extract was the mirror-writing of the heights – both ground height and trig. It’s an odd error, and I cannot conceive of how it came about. None of the other heights on the sheet are affected.⁴

¹ Note on OS Popular Edition of Scotland, Sheet 80 (2500/26).

² WA Seymour (ed), *A History of the Ordnance Survey*, 1980, 172.

³ HSL Winterbotham, *A key to maps*, 1939, 101.

⁴ but Pathfinder 384(A1) has a mirrored ‘Dismtd Rly’ at NT 063936.

The moral: beware old interpolated contours; for the greatest accuracy use Second Series rather than metricated maps. And, so far as I know, all *their* heights are the right way round!



Figure 1: Early Knowe on Provisional Edition NT33 (B)

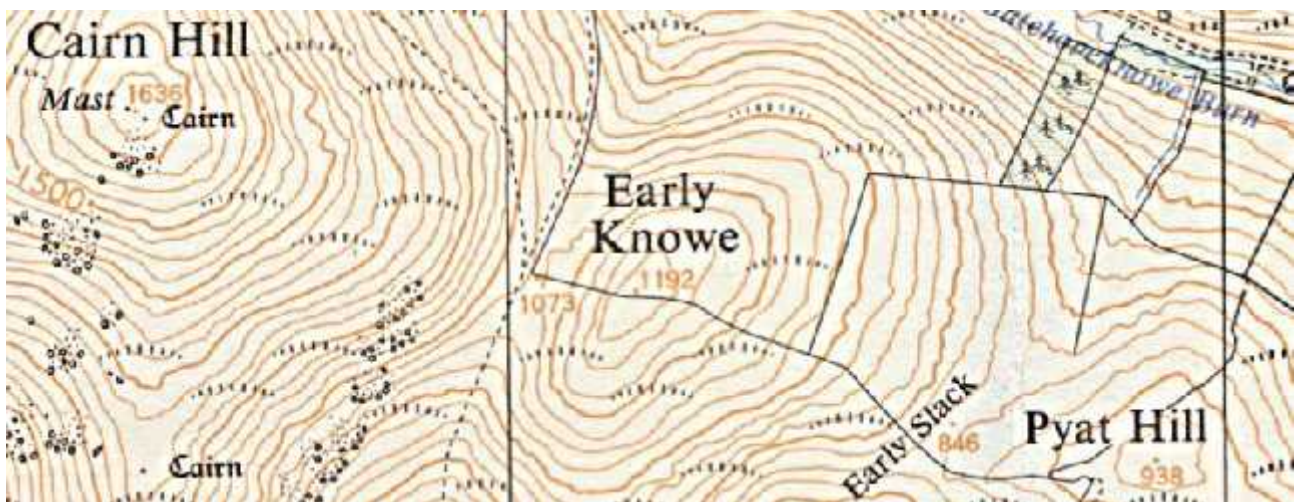


Figure 2: Early Knowe on Second Series NT23/33 (A)



Figure 3 (left): Highest point on Second Series NT23/33 (A)

Figure 4: Same point on Pathfinder 460 (A1)

Airfields on maps – some responses

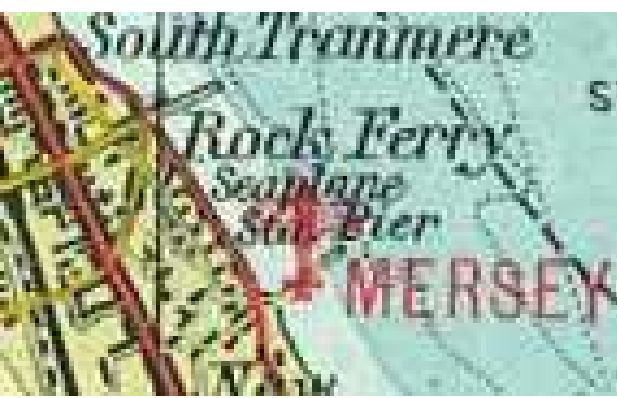
Further to Ronald Blake's study of the depiction of airfields on Ordnance Survey maps (*Sheetlines* 99, 19), it is interesting to note an instance appearing on Bartholomew's half-inch maps which never appeared on OS one-inch maps.

This is the 'seaplane station' at Bromborough, Cheshire, which appeared as 'water aerodrome' on OS quarter-inch aviation maps of 1934 and 1939 and on Bartholomew sheet 8 in 1933. It continued to be shown on subsequent editions of sheet 8 and its successor sheet 28 up to and including the 1964 edition.

An experimental flying boat service between here and Belfast operated briefly in 1928, which seems to have been the only commercial use of the station. Why it still appeared on Bartholomew maps for almost another forty years is not known. Even more surprising is that it appears on the 1974 Soviet 1:10,000 Liverpool city plan (labelled *гидроаэродром* - hydro-aerodrome).

The same Bartholomew sheets also showed the airfield at nearby Hooton Park, opened in 1917, which was also omitted by OS until one-inch Seventh Series sheet 100 in 1952 (on which the name is printed across a blank space).

John Davies



top: Bartholomew half-inch sheet 8 of 1933

second and third : Bartholomew half-inch sheet 28 of 1956

left: extract from 1:10,000 Soviet military city plan of Liverpool, printed 1974

opposite: extract from Flight magazine of 4 October 1928

Thanks to Cambridge University Library for the Bartholomew extracts

Belfast-Liverpool Service

THE Short "Calcutta" flying-boat service between Belfast and Liverpool which was run last week is being continued until October 6. Mails will be despatched for either way every day.

Ron Blake comments:

Cartographic representation of 'marine' airfields is fascinating from both an air-historical and a topographical map-design perspective. Queries about seaplane activity on the Mersey highlight key differences between the approaches of the Ordnance Survey and various independent mapping agencies where aviation is concerned. In my article I purposely avoided discussion of rival agencies, expressing my hope that CCS colleagues with superior knowledge would steer the debate in that direction. Having since received several constructive responses, I'm pleased to offer the following acknowledgements and insights.

First, why was a seaplane station needed on Merseyside, and why on the Wirral peninsula? Provision of a Liverpool-Belfast air-mail and passenger service was consistent with a drive after the Great War to promote civil aviation, although government was initially reluctant to finance new airports and hoped instead that vacant Service aerodromes and seaplane piers would suffice. As there had been no wartime seaplane base on Liverpool's waterfront (just a landing ground at Waterloo Sands), Rock Ferry was a logical choice. Moreover, the nearest suitably-equipped aerodrome, Hooton Park, stood five miles up the estuary, was relatively distant from a railway station, and lacked a short ferry crossing to the City side. Eventually, when a purpose-built civic airport opened at Speke in 1930 (as recommended by consultant Sir Alan Cobham), the Rock Ferry air terminal became effectively redundant.

According to local air-historian Phil Butler¹ the so-named 'Liverpool Marine Airport' was an asset of the Mersey Docks & Harbour Board, operated from 1928 till 1940, and covered roughly four square miles (10 km²) of water between Tranmere and Garston Docks. Disappointingly, there are few (if any) details of it in the Air Ministry's *Air Pilot* or annual *Progress in Civil Aviation* reports, nor was a standard black symbol marked on the OS Quarter-Inch (Fourth Edition) sheet 4 *North Wales and Manchester* (2535, 1935). However, the 1935 edition of *Who's Who in British Aviation* (p.223) did include 'Liverpool (Seaplane Customs Port)' among (92) UK Civil Air Stations, suggesting official status.² Perhaps due to balloon barrages and dense shipping, there is no record of seaplane basing on Merseyside during the second world war.

¹ PH Butler, *Liverpool Airport: An Illustrated History*, Stroud: Tempus Publishing, 2004, 10-12.

² Various editors, *Who's Who in British Aviation*, London: Airways Publications Ltd, annual. Nine other licensed civil seaplane stations were listed: Brough, Cowes, Dover, Hamble, Harwich, Rochester, St Helier (Jersey), St Peter Port (Guernsey) and Southampton. Inexplicably, another excellent directory, FJ Camm, *The Flying Reference Book*, London: C Arthur Pearson, 1939, omitted seaplane terminals altogether.

While these citations may help explain the Rock Ferry *Seaplane Sta* placement on the Bartholomew half-inch sheet of 1933, the site's continuing appearance as late as the 1964 printing is problematic. At this juncture I have to declare almost complete ignorance concerning the provenance of Bartholomew topographic detail (not knowing whether it was procured from the OS or gathered by independent means).³ I must also confess that I omitted to inspect every state of OS Popular sheet 35 *Liverpool & Birkenhead* (or its Land Utilisation Survey overprint), thus failing to spot the word 'Seaplane Sta' which I am now expertly informed did appear on the 1935 and 1937 printings.⁴ It seems increasingly likely that OS Popular material was behind these Bartholomew exposures.

Bartholomew half-inch maps are distinctive in having bold circular aerodrome and seaplane symbols overprinted in red. On the 1933 sheet Rock Ferry terminal was labelled MERSEY (note the capitals), suggesting data-transfer from an official list. On the 1956 revision both the aeronautical symbol and the name had correctly been deleted, yet the original generic description *Seaplane Sta* survived as a misleading anachronism. To identify Hooton Park aerodrome, Bartholomew (1956) simply printed 'Hooton' alongside the symbol. Unlike its Bartholomew competitor, the OS popular map has never systematically employed symbols for airfields (except a few helipads) and is essentially reliant on 'ground-truth' graphics supported by technical wording.

Happily, the 1956 Bartholomew depiction of Hooton Park aerodrome was quite accurate, although flying was to cease a year later.⁵ In anticipation of part 2 (forthcoming) of my historical review, let me briefly flag one ubiquitous downside of sheet overlap. In this sub-regional example sheets 100 *Liverpool* and 109 *Chester* initially (1952) agreed on *Airfield*, but then diverged in their depiction of the site. Whereas sheet 100 progressively amended the label to *Hooton Park Airfield* and 'Wks', sheet 109 suppressed any reference to either aeronautical or industrial activity on every printing after the inaugural one.

As for depiction of the 'hydro-aerodrome' on the Soviet 1:10,000 military plan of Liverpool (1974), the blue-tinted aeronautical basin (SJ345853) contrasts with a white area shown on the OS one-inch Seventh Series sheet sequence. The latter (which has the appearance of a security excision), was in fact freshly reclaimed land (possibly from tunneling). It is my hunch that a substitute seaplane facility had been included in a statutory land-use plan (1947 Town and Country Planning Act), inadvertently handing free target information (albeit fictional) to a potential aggressor.

³ A definitive study on the compilation of Bartholomew maps (if such a work indeed exists) has proved elusive. See Yolande Hodson, *Popular Maps*, CCS 1999, *passim*, for suggestions of relations with OS.

⁴ Thanks are due to Bill Henwood for verifying these depictions, and discovering a survival on the War Revision of Popular Edition sheet 35.

⁵ DJ Smith, *Action Stations 3: Military Airfields of Wales and the North-West*, Cambridge: Patrick Stephens, 1981, 99-102. Hooton Park shut in 1957 when RAF Auxiliary squadrons were disbanded. In 1962 the site became a Vauxhall car plant.

To sum up, there are significant differences in the language and symbology applied to airfields on different scales of map, and numerous inconsistencies resulting from lack of synchronicity and coordination between agencies. While specialist charts are swiftly revised for operational safety reasons, general-purpose topographical maps are characteristically prone to anachronism, random suppression and conflicting terminology. In the particular case of marine airfields, the small footprint of jetties, slipways and moorings has contributed to their under-recording at one-inch scale, while ‘sector-blindness’ (absence of an explicit distinction between military and civil roles) has made it essential to adopt a multi-scale/multi-agency approach when investigating geo-historical themes in British aviation.

Bill Henwood writes:

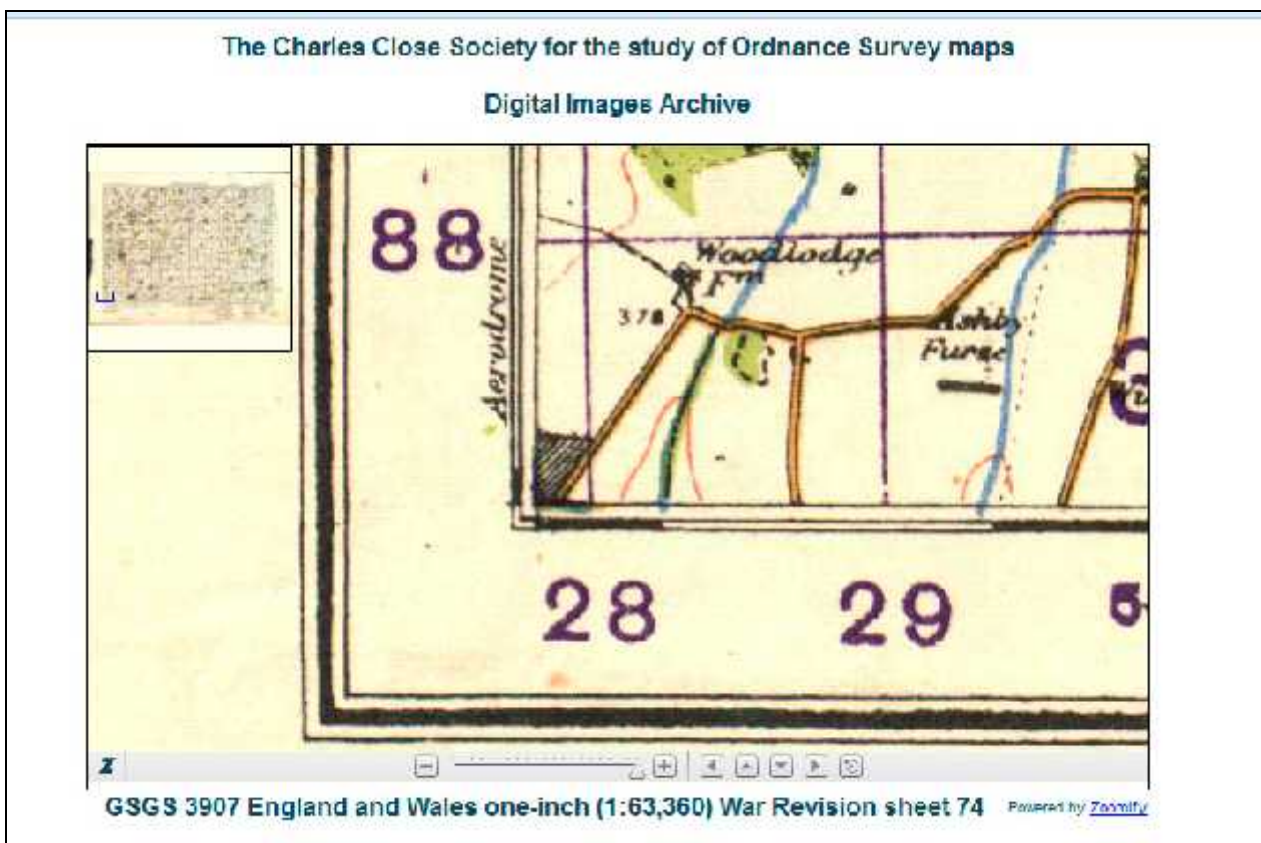


Ron Blake wrote (*Sheetlines* 99, 19) that ‘the obsolete [first world war] term *Landing Ground* was unexpectedly revived at Addington (sheet 115, 1934) and Penshurst (sheet 125, 1936), these being touch-down fields on the Croydon-Paris air route.’

But curiously on sheet 12 of the 1:31,680 London Passenger Transport Board (LPTB) area map of 1935,⁶ the heading of which states ‘Reproduced, with minor modifications, from the drawings of the One-inch Fifth Edition’, the Penshurst site (*above*) is shown as *Aerodrome*. Fifth edition sheet 125 was revised between 1932 and 1934.⁷ The LPTB series was published during the first quarter of 1935. Fifth Edition sheet 125 was published in the first quarter of 1936. So for some reason the drawing was altered from *Aerodrome* to *Landing Ground*, probably during 1935. It would be interesting to know if the same happened at Addington.

⁶ This series is briefly described by Richard Oliver, *A Guide to the Ordnance Survey one-inch Fifth Edition*, CCS, third edition 2000, 47-48. My copy of sheet 12 is grey outline with blue water and has the print code 300/35.

⁷ These dates and those of publication are from Oliver 2000, p. 39.



Rob Wheeler writes: Ron Blake refers to the ‘seemingly random handful of airfields’ accidentally shown on War Revision and Second War Revision sheets. I spotted one such instance at Sywell, west of Wellingborough on War Revision sheet 74, in the Society’s digital images archive on the CCS website,⁸ where ‘Aerodrome’ appears in the bottom left margin. If this was copied from the parent Popular sheet it must have been added to the 1938 printing; it is not there on the 1936 printing. It is not shown on the Second War Revision, but that is derived from 5th edition material. Since only one copy of this War Revision sheet is known, it may count as the most fleeting appearance of an airfield on an OS series. Incidentally, there is a useful history of this airfield at www.sywellaerodrome.co.uk/history.php

Ron Blake responds: Rob Wheeler’s observation regarding Sywell is interesting for a couple of reasons. First, the subtle effects of different topographic material being used respectively for the War Revision and Second War Revision series is an aspect I must confess I failed to appreciate and now realise merits more rigorous investigation. Secondly, marginal descriptions (especially those printed vertically) are easily missed and not necessarily partnered by a horizontal one on the adjoining sheet. (I recall a similar case at Gravesend when appraising the Fifth Edition). Sywell, incidentally, is a good example of those many ‘provincial’ civil aerodromes that were excised from the New Popular Edition. It is my intention to say a bit more about airfield depiction at sheet margins, and on sheet overlaps, in the forthcoming part two of this study.

⁸ www.charlesclosesociety.org/files/DigitalArchive/Item15.htm

How and where

Roger Hellyer

On 9 May 1888, a letter was sent from the Ordnance Survey in Southampton to their Dublin office:

I send you one copy of a Pamphlet which contains general information respecting characteristics and character of writing &c, used on the O. Survey Plans.

Should you consider that more copies would be of service to you, they can be obtained by application to O. Maps.

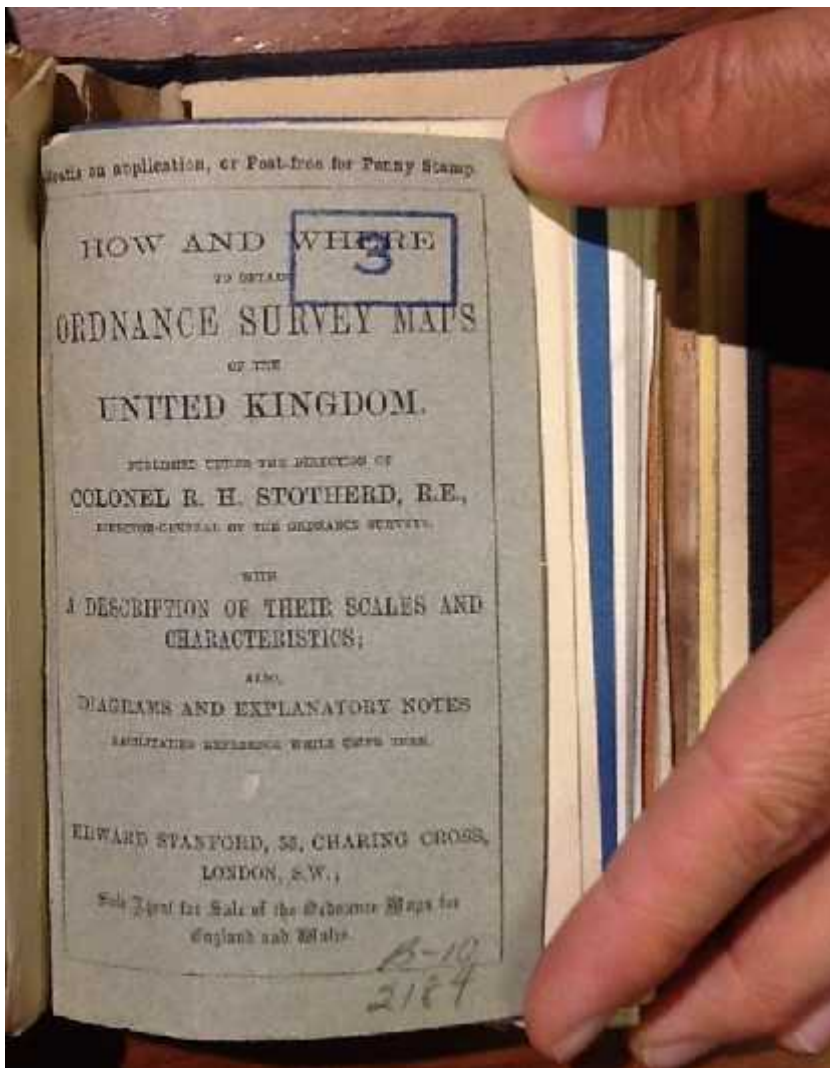
It was signed by G Herb Bolland, Lieut-Colonel, RE. The letter accompanied a copy of the first of a succession of Descriptions booklets, the descendants of which were to become so popular between the world wars thanks in large measure to the artwork of Ellis Martin and Arthur Palmer. However, before the first world war the booklet was clothed in the typically austere buff paper wrappers of a publication of Her Majesty's Stationery Office, foolscap in size, with the unappealing title *Ordnance Survey maps of the United Kingdom. A description of their scales, characteristics, and character of writing; also diagrams & explanatory notes to facilitate reference whilst using them. Colonel Sir C.W. Wilson, K.C.B., K.C.M.G., R.E., Director-General of the Ordnance Surveys.*

The booklet contained a wealth of detail intended to assist the user to find the map best suited to his needs. Following a list of agents and postal rates were remarks giving details of all the map series in print, from the one-inch to the 1:500 Town Plans, and their associated indexes. The remainder concentrated almost completely on County Series mapping – the abbreviations used, details of how areas were computed with supporting tables, illustrations of lettering styles and other symbols. The booklet concluded with a section *Character of writing for Ordnance Survey plans*. This was a revised version of an internal Ordnance Survey paper which had probably first been issued as OS 404 to Survey staff in November 1881.¹ The Description booklet was reprinted a dozen or so times before the first world war, the most significant development being that by 1897 the *Character of writing* section had been dropped and replaced with extracts of current mapping. This change required a revised title to the booklet, but otherwise there were only minor alterations to keep it up to date until it was completely redesigned for the interwar editions.²

This tale might be considered scarcely worth the telling were it not that the 1888 Description, while bearing all the hallmarks of being the first edition, did in fact have a predecessor. This was in the form of a tiny booklet, no more than six centimetres tall and four wide, 24 pages in total, in a grey wrapper. The booklet came with not one, but two complex titles, each rivalling in verbosity that of the 1888 Description. On the title page we find *How and where: or, a description of the maps produced by the Ordnance Survey of the United Kingdom; their scales*

¹ See the appendix for further details.

² A union list of copies of each of the known editions may be found on the CCS website at www.charlesclosociety.org/descriptions

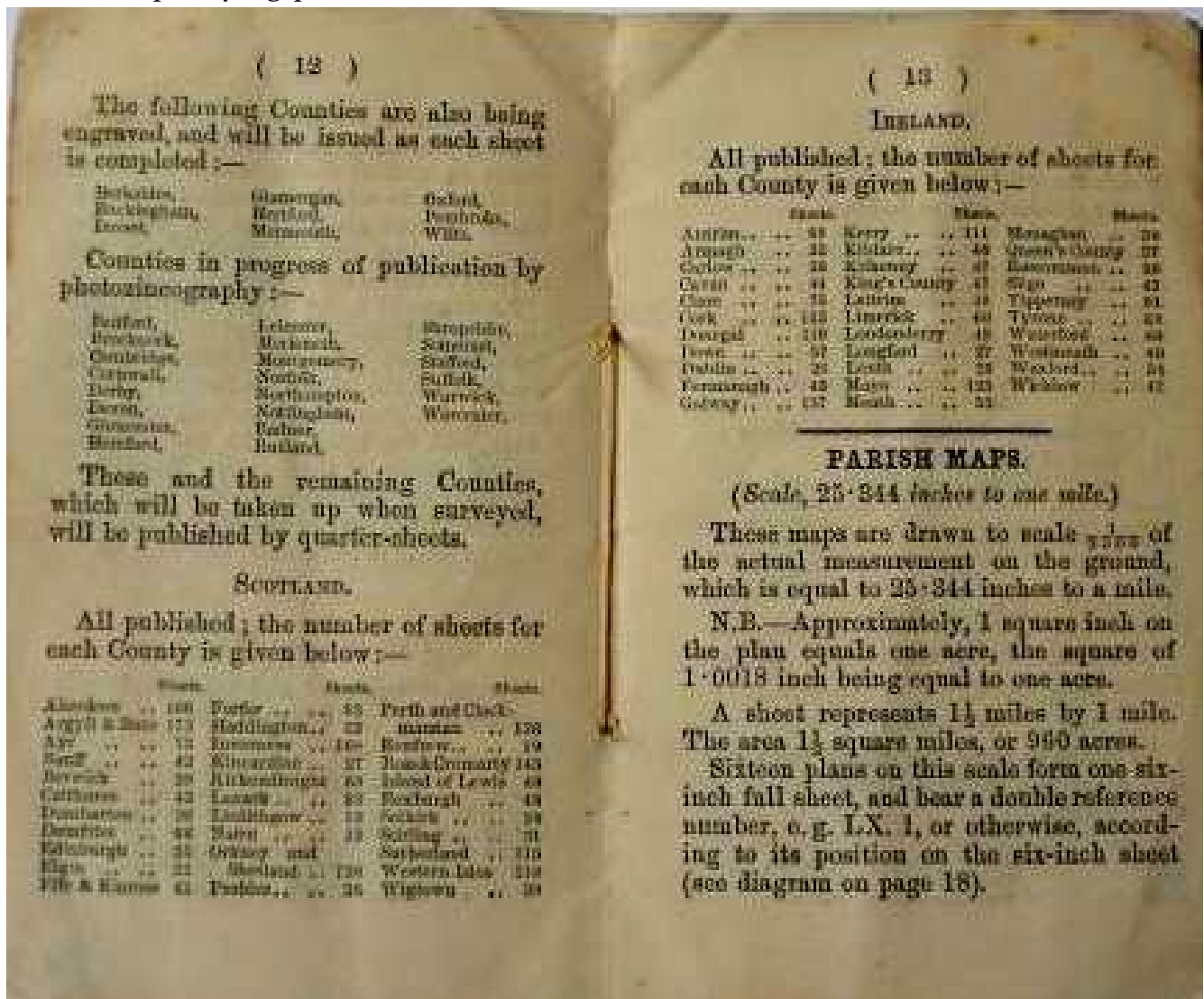


and characteristics; with directions for obtaining them, and diagrams and explanatory notes facilitating reference while using them. Colonel R.H. Stotherd, R.E., Director-General of the Ordnance Surveys. I will not bore the reader by quoting also the rather more fluent wording of the title on the cover to the booklet, which is illustrated in figure 1 (left). While the wording may be different, the detailed summary offered of the contents is much the same in each version. What differs in emphasis is the identification of the author – from the title page it might be construed that Director General Stotherd himself was responsible, while the cover version confirms the much more probable scenario, that

he directed members of Ordnance Survey staff to do the work.

Also worthy of note is the publisher – the Ordnance Survey's agent and independent publisher Edward Stanford. It was an unfortunate omission that he did not provide a publication date for *How and Where*, nor are there any print codes to guide us, so we must seek clues for this detail elsewhere. The most obvious is Stotherd's period of tenure as Director General which was from 1883 to 1886. Narrowing the range further is Stanford's description of his firm in the imprint as the Ordnance Survey's *sole* agent for sale of Ordnance maps for England and Wales, an attribution the company had achieved by the beginning of 1885. A detailed examination of the content against the publication dates of County Series maps might reduce the date range even further. But how is it that Stanford was chosen as publisher in preference to the Stationery Office or the Ordnance Survey itself? Does this collaboration with a third agency suggest that the project was experimental with little or no official authorisation? Or was this genuinely a Stanford initiative, and somehow he persuaded the Director General of the Ordnance Survey to associate his name and his office with it? Whatever the reason, Stanford ensured that the booklet would be a strong advertisement for his own business: the inside surfaces of the cover were packed with the titles of his products, and the introductory page of text was written to inform readers of the

wide range of packaging options that Stanford offered when sending maps by rail or parcel post. And after these preliminaries, *How and Where* continues with instructions for ordering Ordnance Survey maps, a section which concludes with what an impartial observer might view as unnecessarily biased information, a list of map depots – Stanford’s in London and the Ordnance Survey Offices in Edinburgh and Dublin – whereas the names of the main agents, Stanford in London, Adam and Charles Black in Edinburgh, and Hodges, Figgis and Co. in Dublin, as provided in the 1888 Description, would surely have been more useful to the map buying public.



The main substance of the booklet, pages 6 to 21, give descriptions of the maps available at each scale, the General Map (one-inch), County Map (six-inch), Parish Map (25-inch), Town Maps. Note that the word Map is preferred to Plan. County Series mapping was at this date still incomplete, and included are summary lists by county of the sheets that had been published at the six- and 25-inch scales (*see figure 2, above*), and by what printing process. All such detail was dropped in the 1888 booklet. There are also short sections about areas and altitudes, and diagrams demonstrating the sheet number relationships between the six- and 25-inch, and another for the Town Maps, plus a note of the indexes

available for each scale. The booklet concludes with a section on Characteristics and Symbols. These all reappeared, somewhat revised, in the 1888 text.

Also revealing is the section about the one-inch maps on offer to the public. In its description of the *New Series* (italic upper case heading) of England and Wales, *How and Where* states that “The new series (N.B. lower case) is in course of publication. Sheets Nos. 1 to 73, exhibiting the four northern counties and the Isle of Man, with the northern parts of Yorkshire and Lancashire, are now on sale.” The reference in the *Old Series* section corroborates this view, with “All the counties except the four northern counties and northern halves of Yorkshire and Lancashire have been completed on the old series (N.B. lower case), and published”. The implication that sheets 91 to 110 of the Old Series were in fact New Series publications is probably explained by a decision that there was no need to confuse the public with the nicety that, though conceived as Old Series, their sheet numbers had by the mid-1880s been replaced by their New Series equivalents. The much more concise section in the 1888 Description explaining the variants of the one-inch map tells us that “In England (sorry Wales!) there are two series, known as the Old Series and the New Series” (now upper case, those who incline to the expression First Series please note). It continues with a description of sheet sizes, depiction of hills, and sheet prices. All mention of sheet numbers is dropped.

In spite of its diminutive proportions, it is clear that there are more textual descriptive sections in *How and Where* than in the 1888 Description. But there are instances of identical wording. For instance, in the *How and Where* Characteristics and Symbols section, we find “In order that reference to the Maps published by the Ordnance Survey Department may be made more easy and intelligible, boundaries are marked by clearly defined strokes and dots; and territorial demarcations by characteristic styles of writing for the names, which render them plainly distinguishable.” This is copied word for word in the 1888 Description, save only for the alteration of the word Maps to Plans, a point of distinction that runs throughout. Lastly, to complete the picture, it must be recorded that there were two important sections new to the 1888 Description that were not in *How and Where*. One was the *Character of writing for Ordnance Survey plans*, the other a list of abbreviations to be found on County Series mapping, which would occupy two full pages of the 1888 publication.

Finally I would draw the reader’s attention to the heading on the *How and Where* front cover “Gratis on application, or Post-free for Penny Stamp”. In spite of Stanford’s giving the booklet away, this writer knows of only three surviving copies. These are held by one of our members, whom I thank for permission to illustrate figure 2, by the Shropshire Archives,³ and lastly by that most venerable of institutions, the New York Public Library,⁴ the cover of whose copy is reproduced in figure 1.

³ Catalogue number 4756/1/41.

⁴ Catalogue number B-10 2184.

Appendix

OS 404 Character of writing for Ordnance Survey plans

This booklet was apparently first made available to Ordnance Survey staff in November 1881.⁵ In its four foolscap pages, bound in a flimsy blue paper cover, it comprised a comprehensive list of features to be found on County Series mapping at the six-inch and 1:2500 scales and on the 1:500 Town Plans, from Alleys and Courts to Workhouses, detailing in each case which style of lettering was to be used for names at each of the different scales. These were identified as Egyptian, Open Egyptian, Roman, Open Roman, Italian, Open Italian, mostly capitals, as well as Roman Print, Ornamental, Stump, with further options that the lettering could be open, shaded, open shaded, sloped or thin. Antiquities were to be in Egyptian Capitals when Roman, Old English when Druidical or Saxon, German Text when Norman or later.

As mentioned earlier, *Character of writing for Ordnance Survey plans* entered the public domain when it formed the final section of the 1888 Description. Though still dated November 1881, it had been revised and reformatted to include a column showing writing used at the one-inch scale. New entries were added such as Canals Dismantled or Abandoned, Railway Junctions that are *not stations* (their italics) and Shipbuilding Yards. Others, such as Latrines, are deleted. It made further appearances in the 1890 reprint of the Description, and in the only known Ordnance Survey county catalogue, of Nottinghamshire, in 1888.⁶ In its internal OS 404 format, two later editions are recorded, revised to November 1891,⁷ and June 1914,⁸ this last classified For Office Use Only. Both were extended by incorporating some of the sections already to be found in the Description booklet.



Members on a recent visit to the Bodleian Library Book Storage Facility in Swindon pause briefly whilst browsing in the collection of over a million maps.

⁵ The only recorded copy is held by the National Library of Scotland at Map X3.234.

⁶ *Ordnance Survey of England. County catalogue and reference book. Nottinghamshire. Abstract of areas of Civil Parishes, with the Poor Law Unions and Parliamentary Divisions to which they belong; and a description of the scales, characteristics, and character of writing used in the preparation of the plans of the Ordnance Survey.* Colonel Sir C.W. Wilson, K.C.B., K.C.M.G., R.E., Director-General of the Ordnance Surveys, London: HMSO, 1888 (Publications issued, November 1888). The only recorded copies are held by the British Library at Maps 5.bb.5, and Trinity College Dublin.

⁷ The only recorded copy is in a private collection.

⁸ The only recorded copy is held by the National Library of Scotland at Map X3.234.

Tiffin goes to Chessington

This report of a visit to Ordnance Survey offices, recently unearthed by John King, appeared in The Tiffinian 1944-45, the magazine of Tiffin School, Kingston.

The Geography students in the VIth Form, numbering over 20, were privileged to visit the Ordnance Survey Offices at Chessington in the Spring Term.

The tour had been well planned before our arrival and, at 2 p.m., we started on our journey, which took us through the several departments, till, at 4.30, we emerged into the sunlight again. We began by listening to a talk on systems of triangulation used in accurate survey work and methods by which the 50-mile sided triangles were broken down to give ones less than ten miles in length.

The new National Grid system of reference was explained and the Co-ordinatograph apparatus, capable of extreme accuracy, was demonstrated. We found that enamelled sheets of zinc are now used instead of drawing paper, which changes its shape with the vicissitudes of the British climate.

That a map is out of date as soon as it is printed was proved and the system of revision being adopted in the case of the City of Bristol was explained. The Boundary Section provided considerable interest; we were given the history of the department, which began in 1841 on a one-inch map. This scale showed so little detail that in later years the six-inch and twenty-five-inch maps had to be used. Hand engraved maps of Bournemouth of 1811 showed no houses, but later editions showed how the borough had grown to its present size.

Parliamentary Boundaries of Surrey, showing the new parliamentary constituencies, attracted the politically-minded onlookers. A few charred remains of books recording actual positions of parish boundaries, treasured by the Department, showed much interesting historical detail, the widths of ditches and 'Extra Parochial Land' not claimed by any parish.

The large-scale photography department showed sensitised plates, detail being gummed out, and examples of offset and flat-bed plates showing map detail correctly and in reverse respectively. The camera, capable of taking photographs 48in. by 40in., was indeed a masterpiece. Two methods of photography, the Helio and Bromine methods, were demonstrated to eager onlookers.

The printing room was perhaps the most fascinating of all and we arrived when two machines were producing gaily-coloured maps of Java and Sumatra. In the map-folding room we found that maps are folded by hand and by machine, but when maps are sectioned and pasted on canvas adept ladies' fingers are always used.

We saw a good selection of the finished product ready for the public, such as the expressive layer coloured quarter-inch map of South-East England, with lush green alluvial meadows and cool reddish browns of Snowdon and Cumbria. Airmen's maps showed the nature of the route between two air ports of call, the Burmese hills standing up as purple airvilinear contours, visible in the hooded light of the cockpit. The most beautiful map of all was perhaps the New Popular Edition — the sixth edition by the Ordnance Survey. We shall see more of them when they come into the shops.

Observations on Maps from the past 5

Rob Wheeler

Introduction

The additional data presented as an overprint on the military map of East Anglia sheet 85 NE (Cambridge) 1914, published by the Society in 2014 as *Maps from the past 5* raises two questions:

- How was it collected? In particular, how much came from *ad hoc* survey and how much from the items of data that surveyors had been routinely collecting but which did not appear on the normal published maps?
- Was it fit for purpose?

The questions are by no means easy to answer, though much can be learned merely by inspection of the map.

Roads and bridges

Taking the different pieces of information in logical order, we start with road classification. The specification of widths is, as Richard Oliver observed, distinctly odd. The Hunter-Weston report of 1912¹ regarded 14 feet as the critical width to allow two lines of vehicles to pass at speed. That report actually proposed a ten-fold classification of roads which seems to have been the origin of the system which appeared on the one-inch Popular edition; but even with so elaborate a classification there was no consideration of widths other than 14ft, which had been a requirement for first class roads in the existing system. As for the source of the data, the widths might have been inspected on the ground but could have been obtained simply by measuring the width of the carriageway shown on the 1:2500 – though that might not have been altogether reliable. What does stand out is an attempt to be objective compared to the fuzzy, multi-criterion classification used on the civil maps. For example, the road from Cambridge to Histon is shown as first class not just to the station but right up to the fork by the chapel (7C.7,6); the road through Fulbourn, though hardly a ‘main road between towns’ is shown as first class, though dropping to second class as it passes through Home End (12G.8,1).

This leads on naturally to bridges. There was ample precedent on the continent for distinguishing bridges of wood, iron, etc. The idea was presumably to give an indication of the ease with which a bridge can be destroyed, by own forces or by the enemy. A wooden bridge might be felled by a man with an axe; a brick arch is vulnerable to a pick-axe. That at least was the idea. If one thinks of one of Brunel’s timber viaducts with 12 inch by 12 inch timbers springing from stone piers and with the decking perhaps replaced by mild steel, one gets an idea of the problems sometimes faced by the surveyor, and by the man with the axe. But the surveyor (or at least the one-inch reviser) had been given a fairly clear

¹ Copy at TNA WO 33/3265. I am grateful to Richard Oliver for drawing my attention to this and other relevant material; he should not be held responsible for the deductions I have drawn.

definition,² and Cambridgeshire, in any case, lacked Brunel viaducts.

Recording the width of carriageway at bridges seems superfluous, except in the rare cases when the bridge was disproportionately narrow for the class of road, or too narrow to take a towed gun. It is true that the Hunter-Weston Report had been keen for maps to show the width of bridges, even though they recognised that this was impracticable at the half-inch scale; however, it is apparent from the context that they sought this information only when the road narrowed suddenly at a bridge. Width information could again have been taken from the 1:2500.

What was the source of the information on the material of which bridges were constructed? The obvious source would have been the data collected in the course of one-inch revision. However, the instructions that survive for this combined brick and stone as Masonry (M) bridges and directed that 'S' should be used for suspension bridges; the new map took no interest in suspension bridges – not exactly common in East Anglia – and required Brick (B) and Stone (S) to be distinguished. That suggests *ad hoc* survey. At this point it is useful to see what the map has to say about a couple of the Cambridge bridges. Magdalene Bridge (8E.2,1) is marked as B.18'. Pevsner³ in contrast tells us that it is a cast-iron bridge of 1823. Having walked across it many times before its recent rebuilding and indeed having inspected its underside from a punt, I can declare Pevsner to be right and the OS wrong. A single error might be attributed to carelessness. Let us therefore drift down the river to the railway bridge at 9D.4,5, which the *Map of East Anglia* tells us is of wood. I understand that this was originally of wood but was replaced in 1870 by a plate girder bridge which lasted until 1930. My source⁴ for this bridge is not as authoritative as Pevsner but is entirely plausible: it would have been most remarkable for one of the Great Eastern Railway's wooden bridges to have survived on a main line as late as 1914. And why are none of the other bridges in the centre of Cambridge (eg Silver Street) annotated? One is left in some perplexity as to what might have been the source of the bridge data.

Inclusion of the railway bridge here suggests intelligent drafting (or interpretation) of instructions: a railway bridge would provide a useful means of getting troops across the river if all road bridges had been severed. However, that at 7H.2,1 is ignored; perhaps the Cam above Cambridge was thought too insignificant an obstacle. This does raise the question of what categories of bridge were to be annotated. Logic might suggest those carrying roads over what would otherwise be a significant obstacle; railway-over-road bridges should not be of interest since clearance of debris from the road would be a relatively straightforward job. Such a bridge at 1G.3,1 is indeed not annotated; another at 9D.4,5 is, despite being adjacent to a level crossing. It would be useful to extend this exercise to other sheets of the map.

Continuing with the theme of bridges, the key has a symbol for *culvert*. It

² Roger Hellyer & Richard Oliver, *One-Inch Engraved Maps*, CCS, 2009, 83.

³ Nikolaus Pevsner, *Buildings of England: Cambridgeshire*, 1970.

⁴ http://en.wikipedia.org/wiki/List_of_bridges_in_Cambridge#Railway_Bridge

seems not to have been used, except possibly at Westwick (6B.5,9). Certainly the surveyors showed no desire to mark all culverts. In the context of 1914 it is unclear why the symbol might have been thought useful.⁵

Marking weight limits on bridges seems much more useful than marking carriageway width. So why was the information limited to those unable to carry 7 tons: even if some vehicles (traction engines?) in use weighed precisely 7 tons, there must have been lighter vehicles that might be critical, or indeed scope for heavier ones. Related to this is the question of where the information came from. One finds in the pages of the *London Gazette* of this era notices by County Councils prohibiting the driving of Heavy Motor Cars on certain bridges. If the county surveyors were forming views on the structural strength of road bridges, they presumably maintained a list of those on which weight limits had been imposed. Obtaining a copy of this list would seem a lot easier for the OS than sending its own surveyors to visit bridges to see whether there was a weight limit sign.

Another problem that arises is illustrated by the situation on the road to Royston, where Lord's Bridge (5H.1,1) is marked as unable to carry 7 tons while the alternative route via Comberton seems clear of restrictions: was that merely because the road south from Comberton was too insignificant for anyone to have investigated the strength of its bridges?

Before leaving bridges, we might care to note the Washpit Brook at 6D where two farm tracks (of 12' width) appear to go *under* the brook!

Turning now to gates across roads, this symbol seems superfluous: if a road is unfenced and a fence or hedge crosses it, there will normally be a gate. This may be the logic that causes gates to be shown across a farm track at 4D.9,6: the gates shown are where the track crosses a ditch, so a gate might or might not have been present. But most of the gates shown in 4E do not have this excuse. The information need not have been obtained from survey: the six-inch shows clearly enough whether there is a gate.

Infrastructure

Moving on to telephone/telegraph lines and water mains, Richard Oliver in his notes calls them 'fragile infrastructure'. Doubtless, the cutting of telegraph wires to deny the enemy their use had been a standard tactic in the Boer War, but repair was a fairly quick job.⁶ It seems more likely that the lines are shown for their utility as a means of communication. The existence of telegraph lines along railways seems to be assumed automatically.⁷ Likewise, wires seem to be omitted in built-up areas. An implicit example of this is at Fulbourn (12G) which has a Post & Telephone office (P.t) despite not being shown as connected to a

⁵ The *Text Book of Military Topography, Part I* (HMSO, 1898) p224 states that they should be shown on a Road Reconnaissance sketch, though no description is necessary.

⁶ Lord Haig in his younger days suggested that, rather than *cutting* telegraph lines, it would be more disruptive to randomly reconnect them so that messages went to the wrong destination.

⁷ See Richard Oliver, *Ordnance Survey Maps, a concise guide for historians*, CCS, 2005, 99.

telephone line. While this may be an error, it is possible that the office was connected to Fulbourn railway station along a street that counted as a built-up area. Oddly, a telephone line approaches Fulbourn along the main road from Cambridge but stops a mile short of the village. Has the map caught the line under construction, when the Fulbourn office was just about to be transferred from a railway connection to the Post Office's own lines? Information on the telephone network would doubtless have been obtainable from the GPO.

As for water mains, these are no more vulnerable than anything else on the map. The annotation of reservoirs with their capacity suggests rather that water mains were shown because of their utility, especially for the watering of horses. Since water mains are normally buried, the source of the information was presumably the Cambridge Water Company and other undertakings. Indeed, the water mains ending in the middle of nowhere at 8D.9,2 and 9D.1,1 may indicate the points where the public main ended and was continued by private supply pipes to particular farms.

Churches and viewpoints

Marking churches with towers, etc, is a case of showing information already available in most cases on the one-inch map but not on the six-inch, from which this map was reduced. I assumed that a 'church with tower & spire' meant one with a recessed spire, which counted as a church-with-spire as a landmark but had battlements on top of the tower which could serve as a look-out, whereas a 'church with spire' in this context had a broach spire affording no viewpoint. If that was the intention, it seems not to have been explained to surveyors adequately: Madingley church has a recessed spire but is shown as 'church with spire'. The use of the 'observation & signal station' symbol is also curious. Where attached to a church tower, as at 12E.4,6, it does at least reassure the intending user that the view is not blocked by trees. On open ground the symbol merely provides information that can be deduced from contours. It is possible that the symbol was provided for the convenience of users who lacked adjoining sheets – indeed in this case there was no adjoining sheet to the north. But when so much of the additional information appears to have come from existing records, it is perhaps doubtful that surveyors were sent on an *ad hoc* survey looking for viewpoints. Were the viewpoints taken from an existing list of spots the local Territorials had noted as being useful?

Rivers

Measurements on rivers and streams are erratic, some areas being well-provided, others not. The key seems to imply that a double line indicates streams over 20 feet wide and that annotation is only used on narrower streams. However, standard *small-scale* practice was to use double lines for anything over 15 feet⁸ and 7J.1,9 provides an example of a double-line stream declared to be just 15ft wide, whilst north of it are examples of annotated widths in excess of 20ft. The Cam below Grantchester has more complex annotations such as "25'-1' Water 4'",

⁸ *Concise Guide*, 101. The *Text Book of Military Topography* concurs.

whose interpretation is unclear. Is it significant that this section was popular for punting trips? The thought of surveyors punting to Grantchester at public expense is amusing but implausible. The alternative, of clerks at Southampton leafing through guide books to Cambridge for accounts of water conditions, also seems unlikely. On the other hand, one can imagine members of the Cambridge Officers' Training Corps being encouraged to collect this information in the course of leisure trips as well as field exercises; and that might explain the patchy nature of the data.

Camping grounds

Finally let us turn to 'camping grounds'. The requirement was presumably for permanent pasture with good drainage. Most such sites in Cambridgeshire were in the parks of country houses. However, the sites on the map are carefully delineated and sometimes extend outside the park. They appear to represent areas whose use had been negotiated rather than areas identified by surveyors. We know from contemporary newspaper reports that camping grounds were negotiated for territorial battalions for their training periods. So does the map show those sites that happened to have been used thus over the previous few years?

The 12-mile survey

Perhaps the most interesting conclusion from this exercise concerns the source of the data. The question originally posed assumed almost implicitly that it came from OS surveys, either *ad hoc* or routine ones. It has however become apparent that some of the data probably came from statutory operators – notably that on water mains. Other data could have been supplied by the draughtsmen from existing County Series mapping. But the most striking possibility is that some of the data might already have been held by the army.

The germ of this idea is perhaps the Baker Committee's suggestion⁹ that "within a radius of 12 miles of important military stations, the roads should be classified and information as to windmills, public houses, churches, woods, heathy pasture, &c., supplied by properly qualified military Officers, the expense of this being charged to the War Office ... Suitable sites for camping within a 12-mile radius of the military stations should be reported on by the Officers told off to classify the roads". There seems to be a mix of ideas here: on the one hand, the selection of camping grounds would appear to require an infantry or cavalry officer rather than one from the technical corps, and preferably an officer with local knowledge. On the other hand, the statement that expense should be charged to the War Office – unless this refers merely to expenses in inspecting public houses! – suggests that these officers might be on the staff of the Ordnance Survey.

⁹ *Report of a committee on a Military Map of the United Kingdom*, War Office, 1892, pp8, 11. The Committee did also propose a two-inch manoeuvre map with additional contours, for "such parts of the country only as the War Office considers necessary for manoeuvres and instructional purposes", but this was separate from the collection of additional data for the one-inch.

In the event, most of the objectives of this 12-mile survey were incorporated within routine revision. But it seems possible that the other objectives were adopted by certain Territorial and OTC officers, who made a point of collecting such information in the course of other activities and marking it up on their local maps. Do such annotated maps survive anywhere?

One possible piece of evidence for data collection by local units might be variation of features covered from one military district to another. For example, there are no traction-engine watering places on the Cambridge sheet and possibly no culverts. If the occurrence of these features were to be plotted across all sheets and the watering places were found to be almost all within 12 miles of Ipswich and the culverts all around Bury St Edmunds (say), this would strongly suggest local collection.

Generalisation

There is another aspect to this map that I have not touched on, and that is the extent to which superfluous material has been removed from the six-inch to suit the 1:25,000 scale. Parish boundaries have gone. Multiple 'P' and 'W' symbols have been thinned out: presumably it was thought sufficient to know that water was available at a location; there was no need to show the location of every pump. Comparison with the parent six-inch sheets is an instructive exercise, now made so much easier by the availability of the maps on the NLS website.¹⁰ But, as Cambridge textbooks were wont to say, this is left as an exercise for the reader.

A lost letter



CCS member Ann Lloyd of Charlbury, Oxfordshire was surprised to discover that her home town is misspelled on the Ordnance Survey online small-scale map.

¹⁰ <http://maps.nls.uk/os/6inch-england-and-wales/index.html>

Kerry musings

David Archer

It is a truth universally acknowledged, that a single map in the possession of a novice collector must be in want of a companion. And the chances are that further acquisitions will initially be of the same series, usually standard one-inch, quarter or half-inch editions, well known, easily found and easily understood. By which I mean, they are numbered one to whatever, so that a collector knows what is involved in collecting a set; an index diagram will be readily available, one knows how many sheets are needed to cover a given area and which sheets are adjacent to those held. These days, if one wishes to go into an edition in detail, there is usually a Charles Close Society publication ready to elucidate.

But the Ordnance Survey has existed for over two centuries and has had many leaders, many having wanted to try something new. Something deviating from the norm. Often, such deviations are poorly recorded, if at all. Neglected in catalogues and annual reports, with little documentation finding its way to official archives, the surviving examples are the major source from which to piece a story together. Consider three such groups of Ordnance Survey output; none have had even a skeletal list published in *Sheetlines*, nor do we know how many there were in each group. A far cry from the one-inch Seventh Series, about which we know so much.

Maps printed on Place's waterproof paper are probably the best known of the three groups, and have had something written about them by several members, as a search in the index to *Sheetlines* will reveal. An OS experiment lasting for about seven years from 1929, maps are found within and without covers. But which maps? Quarter-inch Third Editions, one-inch Populars, Scottish Populars, Fifth Relief, Tourist maps, and military maps, especially GSGS 3907 and 3908. But only for the Populars of England and Wales do we have a full list.¹ Roger Hellyer has suggested that most military printings of this era resulted in some copies on waterproof paper being produced. From Roger, such a suggestion is just short of being a fact, but is not a list. We want a list. A list of all maps printed on Place's waterproof paper.

The main stumbling block is identification. Maps in covers are fairly easy, and fall into two groups. Some had special covers designed for them and are quite distinctive. Others, have modified standard covers, where the high price is a giveaway, and additionally there is usually a label, or traces of, with red text and Place's logo, as on the inside covers of the first group. When issued in covers, somewhere it states that the maps were 'On Place's Waterproof Paper', or similar wording. But identifying flat sheets is more difficult. As with looking for watermarks on Old Series maps, until you find the first one, you are not sure what you are looking for. Slightly waxy stiff paper, I was told. But a lot of OS maps are on stiff paper, and yes, one might even say waxy at times. So, if one is

¹ Yolande Hodson. *Popular maps : the Ordnance Survey Popular Edition one-inch map of England and Wales 1919-1926*, The Charles Close Society, 1999. Check-list 7 : Sheets printed on Place's waterproof paper. 101 of the 146 maps in this edition are listed.

not sure what one is holding, it will be so difficult to identify a likely suspect and compile a list. That more examples probably exist flat than in covers adds to the problem.

Consider next, repayment jobs. Maps produced and printed, or just printed, by the Ordnance Survey, for someone else. The Charles Close Society paid the Ordnance Survey to print the first two maps in our reprint series. 'Printed by the Ordnance Survey', where the Ordnance Survey's role was essentially that of a jobbing printer looking for an income, as with work for Cassini maps. The OS has always undertaken paid work. Look at the publication dates of the Old Series, and Lincolnshire stands out as being strangely early. Why? Because the county was given priority when the Ordnance Survey and local gentry agreed the sheets would be partly financed by subscription, with a similar arrangement for the Isle of Lewis in the Scottish one-inch First Edition. Repayment jobs that were also part of a standard series. Towns wishing to have a mid-nineteenth-century Ordnance Survey 1:528 plan were asked to pay, and some did. Much later, we have Third Edition District maps in special covers for Oxford and Cambridge University OTC, followed by sheet 112 of the Popular Edition, produced for Marlborough College, with the addition of hachures. The OS printed 14 maps for the Land Utilisation Survey of Britain, as well as maps for various footpath societies. Standard OS maps, are found with Automobile Association covers in the mid-1960s, *The Heart of Hardy's Wessex* in 1974 had its own cover and coloured overprint, whilst the Camping and Caravanning Club had maps produced and printed regularly from the late 1970s to late 1990s (and beyond?). Attractive dark green Jaguar covers housed a set of nine Routemaster maps in the 1980s, with a Blackwell's 1:50,000 and Heffers town map being issued in the 1990s, a period that saw the introduction of 'MiniScale customised mapping' for various customers. The 2012 map *The future Queen Elizabeth Olympic Park* brings these few examples almost up to date, allowing us to argue that a policy of using resources to bring in a little extra cash has always existed, and continues to the present, if only occasionally for special events.

But having found an example, the inevitable questions arise as to whether the copy found is part of a set or series, and how many were there? I once found a Routemaster map in a glossy pictorial Zirtek (hay-fever tablets) cover. Were all nine sheets issued in this format? I wrote asking the marketing director and he kindly sent me a set of ten, which were unwanted and taking up space behind his desk. The tenth sheet being for Northern Ireland, which, I suppose might exist for the Jaguar set and be lurking in a private collection.

How many such productions were there? Who were they produced for? Will the records ever be deposited in a public archive? Or will we have to issue lists and ask for additions? My assumption is that there was no obligation to deposit this material in the copyright libraries. Thus, one cannot visit the usual places to view it. One has to rely on finding examples, which, as I say, poses the question : is what one finds a one-off example or part of a set? My assumption is that all nine sheets would exist for a job using the 1:250,000 Routemaster maps, as for Zirtek and Jaguar, but do 204 Landrangers in white Audi covers exist? Searching

for modern repayment maps can be time consuming, as they appear in a variety of formats, in glossy Landranger size covers, integral covers, paper folded on matt or glossy paper. One has to look at anything that seems likely, but the rewards are often great, as with the stunning cover artwork for the early *Cyclecity Guides*.

Finally, we might consider the little known Ordnance Survey location postcards. These were first produced in the late 1970s with orders still being accepted in early 1994, when I lost interest in them, so have no idea when they finished. Anyway, for a good few years, the Ordnance Survey would produce postcards, 'based on any OS series, with enlargement or reduction of the map, and the addition of logos, routes and customer's information, as optional extras. Customers have included schools, public utilities, small businesses and private individuals'² I know of nearly 350 different cards, but have no details after February 1994. As with repayment jobs, postcards do not appear in legal deposit collections, were often ignored in official publications and have not been listed by the society.

I must admit that I did collect these, but stopped, as after a while they all look the same, and one cannot remember what one has. Problems arise from the same front often having different versions of the back, and vice versa, with numerous cards being corrected and re-issued due to mistakes. (Map errors are a fourth open ended and un-listed group.) Great fun for collectors? Not really, tiresome beyond belief. One cannot collect these cards without a good detailed list, at which point, one stops enjoying the cards and sees them as something to be checked. Just like exam extracts, another unlisted group,³ OS postcards are so difficult to remember. I suppose that with a flat map, there is a good chance it will contain something memorable, such as a town, but with cards, even town centres all look the same en masse, and many are town centres. A positive thing is that they cost little, but buying by post increases the cost, and the expense of attending postcard fairs in order to find a couple of 50p cards is just not on; though one could 'register' wants with postcard dealers and have them send new stock on approval. I might well return to location postcards, as they are fun to track down, and very addictive. Bright, colourful and glossy, with a host of different logos.

So, what might the society do about all the open-ended groups of OS products? A good start would be to get a good list together for each group and put it on the society website. It will then be there for anyone in the world to see, and notify additions and corrections. There is no longer any point in using *Sheetlines* for such a venture, as there are various lists abandoned to old issues, worthy but forgotten. We do have a 'Provisional cartobibliographies' section on the website, but the information is almost complete and far more polished than the embryonic lists I am suggesting. So why put something sketchy on the

² Ordnance Survey, Repayment Services leaflet *Location postcards*, 30 August 1988. Question : Why Repayment and not Payment Services?

³ The fullest list that comes to mind is of extracts from a few military series : Roger Hellyer and Richard Oliver. *Military maps: the one-inch series of Great Britain and Ireland*, The Charles Close Society, 2004, 257.

website? Because for many groups, it would be fruitless to trawl the legal deposit collections hoping to find a significant number of examples : the majority known are held by private individuals. I have a collection of different OS labels and stickers found on maps, a part of the history ignored by libraries; a lot of us have collections of errors on maps and covers, whilst OS maps in books need to be listed, as do OS maps used in advertisements. Such a listing must be a co-operative venture to succeed. Something for anyone to add to. A website list is a start, but unlike standard numbered series, where a lot can be predicted, pencilled in and confirmation sought, open-ended groups really would benefit from Ordnance Survey help. One would hope that the files for the repayment jobs and location postcards still exist, and that the society might encourage the OS to deposit them in a national archive, even with an embargo of fifty years, if necessary.

Open ended series, consisting of the unexpected, and offering surprises, are very relaxing to collect, as there are no pressures. Not knowing what exists, the discovery of a new map is a pleasure in itself, unlike one-inch series, where one does know what exists, and nothing surprises. There must be scarce maps and the more common ones, but they have not been identified, and so every new map is greeted with the same pleasure. One does not say “Ah, that fills a gap”, but “Ah, another one to add to the collection”. I do not feel under pressure to complete a ‘set’, and if one is missed somewhere, well, it does not upset me, as I assume there are hundreds of them, and that I will never have them all, so the odd one missed is just one amongst many.

Rowley Award 2014

At the 2014 AGM, the first biennial Rowley Award, and a cheque for £50 was accepted by Richard Oliver on behalf of Paul Bishop and himself, for their article *Representation of ha-has on OS six-inch mapping* in *Sheetlines* 95.

Combining a study of Ordnance Survey maps and field research, it was felt that this was a good example of a new and emerging approach to the study of OS maps, and one which it is hoped will inspire new authors to put pen to paper or finger to keyboard. Many members have varied interests for which they use Ordnance Survey maps, or which have developed from their interest in OS maps. Others are more interested in the maps themselves, and have observations and information that others would welcome.

So, why not write about something in your collection, your likes or dislikes concerning OS maps or data provision, what you use OS maps for, an event in OS history or something similar? Any piece will be considered, as long as it is concerned with Ordnance Survey maps and is the author's (or main author's) first or second article for *Sheetlines*. Articles which the judging panel believe set an example, and will hopefully encourage others to start writing are sought for the 2016 Award.

David Archer and Alison Brown would like to thank Bill Batchelor and Chris Higley for being on the first panel of judges. As Richard was not eligible for a financial reward, having written at least two pieces for *Sheetlines*, he was given a map for his collection.

Letters

Edition 100 of *Sheetlines*, wow, let me get my calculator out. So that's 100 divided by three editions a year equals 33 years! Good heavens, that means I was a sweet 41 year old at the time! And an innocent 41 year old at that. I didn't know my '1st Edition' from my 'Old Series', or even my '2nd Edition' from my 'New Series', tut tut, so joining the Charles Close Society has given me something.

How I remember those early days, the very snowy adventurous trip to my first CCS meeting in remote South London at Chris Board's house (it is south of the Thames and a multitude of railway lines to get there) That was a super meeting about the OS maps that I have been interested in ever since, Half-inch, early Quarter-inch and Ten-mile scales. I also remember the meeting at the British Library where we were shown treasures that I had thought were amongst those that had been destroyed by second world war bombing, such as the original surveyors' drawings for the one-inch mapping, in wonderful colour and all hand drawn, beautiful!

I now have a lot of happy memories and loft full of maps, not all OS, and all thanks to the founding members of our society especially Alan Godfrey who sent me the information about the start of the society and my near neighbour Yolande Hodson who took the trouble to phone me at work (who was this lady? she didn't sound like a frumpy librarian I had imagined she might be, not with that voice!) to comment on a little booklet I had put together about OS maps that I had sent to her. She encouraged me to get involved with the Charles Close Society. Thirty-three years of pleasure.

Bill Batchelor

Mike Nolan¹ asked why a blue grid is used on OS 1:50,000 mapping (military series M726) and Richard Oliver² suggested 'cartographic design and economy of printing'.

The spec for the OS 1:50,000 had already been agreed before I was posted to OS in 1972; I was only involved with Cartographic Planning and Production. My personal thoughts on the grid colour are:

- the spec was aesthetically to aim for a lighter and more open appearance than the previous one-inch Seventh series (with a black grid)
- the new 1:50,000 was designed for four colour printing; hence in view of the comment above the selection of cyan for the grid lines and values, especially as the civilian version includes grid values at 10km interval (a great improvement for the walker).

I am pretty sure that Military Survey will have had a representative on the design committee for the new 1:50,000.

John Price

¹ *Sheetlines* 98, 34.

² *Sheetlines* 99, 56.



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This extract from an OS advertisement is taken from page 15 of the Spring 2014 issue of *Walk*, the magazine of the Ramblers. OS seem to have come up with a novel way of folding *Explorers* - unless, of course their advertising agents have been overenthusiastic in their use of Photoshop!

Chris Higley



Paul Swindell (*Sheetlines* 99, 18) provided photos and a 1:50,000 map extract of Northumberlandia. He then wondered, *what the lady would look like with contour lines rather than hachures*.

Some years ago my sister sent me this 'map' with a query as to whether it was an OS map.

This lady is not Northumberlandia, but maybe it gives a partial answer to the question?

David Andrews

[© we have not been able to trace the copyright holder. Ed]

The trig point at Golden Cap, Dorset (SY 407 922) is padlocked. Could this be to prevent it being stolen in the night, or is it a lover's lock, as found in profusion on the bridges of Paris? Who knows?

John Davies

